THE CALIFORNIAN.

VOL. II. OCTOBER, 1892. NO. 5.

AMONG THE BASKET MAKERS.

BY JEANNE C. CARR.

IN studying the evolution and characteristics of a race, a convenient starting point is found in the earliest evidence of its ability to adapt the materials furnished by wild nature to permanent uses.

On both the eastern and western shores of the Pacific Ocean we find that the art of basketry has played a most important part not only in services essential to the maintenance of life, but possibly a still greater one through the development of intelligence and skill in the process of construction and of taste in decoration. Mr. Christopher Dresser, in his admirable work on "Art and the Art Manufacturers of Japan," says: "The Japanese are the best basket makers in the world. They make baskets which are not only useful, but which may be classed as art objects. The patterns are beautiful, and their curves almost invariably form a pleasing contrast with the lines of other parts of their work." It is a singular coincidence that this is equally true of the baskets made by the Indian women of the Pacific Coast from a period long prior to their intercourse with civilized nations. And however varied have been the requirements of use, the articles are equally remarkable for their perfection of form; and when decorated, for the taste displayed in their coloring and designs.

Conceding the perfection of the Japanese workmanship, and the incomparable superiority of the bamboo as a material of basketry, the Indian baskets afford us a more attractive study through their relation to the higher development of the aboriginal races of our own country. As ideo-

graphs they are full of interest to the ethnologist, who finds in the progressive steps of their manufacture a preparatory training for pottery, weaving and other primitive arts. And in tracing back the conventionalized patterns to their natural sources, the artist finds them in the cones of pine trees, in acorns and the seed vessels of many humbler plants; in heads of dried the grasshoppers for winter use. In times of scarcity they searched every hiding place of fat grub or toothsome bulb; or with a tough stick drove the angleworms from their holes, and with the addition of a few wild onions and acorn flour converted the mess into an appetizing soup. They made petticoats of tule and other wild grasses for summer use, and winter

The Collection of Miss Kate Mabley of Detroit, made in Los Angeles County.

artichokes and burrs of teazels; in feathers and fish scales, and even upon the variegated skins of lizards and snakes.

Among primitive arts, basketry also furnishes the most striking illustration of the inventive genius, fertility of resource and almost incredible patience of the Indian women. They collected the fuel, gathered the stores of acorns, mesquite and other wild seeds; they garments of rabbit and squirrel skins. And while all these accomplishments added to the market value of the women, it was invariably the most expert in basketry who brought the highest price, viz: two strings of shell money, or one hundred dollars.

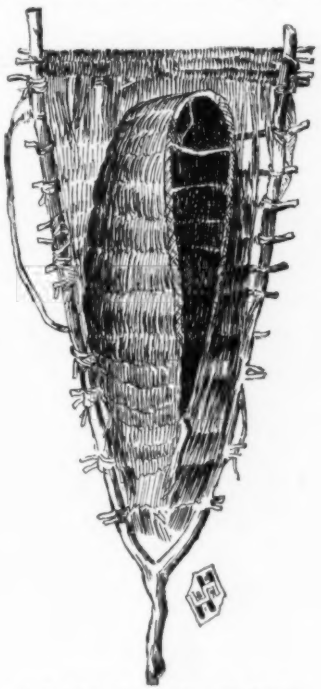
Divorced from the basket of his squaw, the brave had no social status whatever. He could only revenge himself by calling his wife by her own

name—the greatest possible insult to a married woman of the California tribes. The entire alphabet of natural uses was as familiar to them as the changes of the seasons or the tokens of the wind and sky. And though the functions of war and worship, and the pursuits of the chase belonged exclusively to the men, there were female shamans in all the northern tribes, who invoked and cast out spirits and were famous for their skill in the treatment of disease.

Alone in the forest, or beside some rippling stream, the Indian mother received into her bosom the little brown creature who made her slavery endurable. Its basket nest, cunningly wrought after the fashion of a butterfly's cradle, was fastened to a strong frame of wicker-work. Taught by the oriole, she lined the nest with down of milkweed and soft fibres; but prouder or less wary than the bird, she decorated it outwardly with bright feathers and strings of tiny shells. When she traveled, the precious basket was strapped to her back, and she never parted with it until the baby died, the empty basket being then hung above its grave. When at home, the baby basket was usually fastened to the nearest tree, where, with never a cry, the little bead eyes followed the moving clouds and fluttering leaves into the land of dreams, while the mother molded her acorn bread in a basket tray, or cooked her dinner in a deep, round basket into which heated stones were thrown to serve the purposes of fuel.

She converted a round, gray boulder from the nearest brook into a mortar wherein seeds and nuts were pounded into meal; but even this primitive mill was not complete until a wide rim of basketry was securely cemented around its opening to prevent waste. Basket sifters, also, of various degrees of fineness were needed to separate the chaff. An increasing family required more and more baskets, strong and heavy ones for the storage of acorns and grain; others light, yet substantial, in which clothing and the rabbit skin coverlets used in winter could be protected from rain and the ravages of tree rats and squirrels. The aboriginal bureau or wardrobe was simply made by turning a large basket over a smaller one suspended by ropes of hair or strong fibre in some convenient place, out of reach of these enemies.

The thrifty squaw was known not only by the size of her roof granary,



Indian Baby Basket, Chrysalis Pattern.

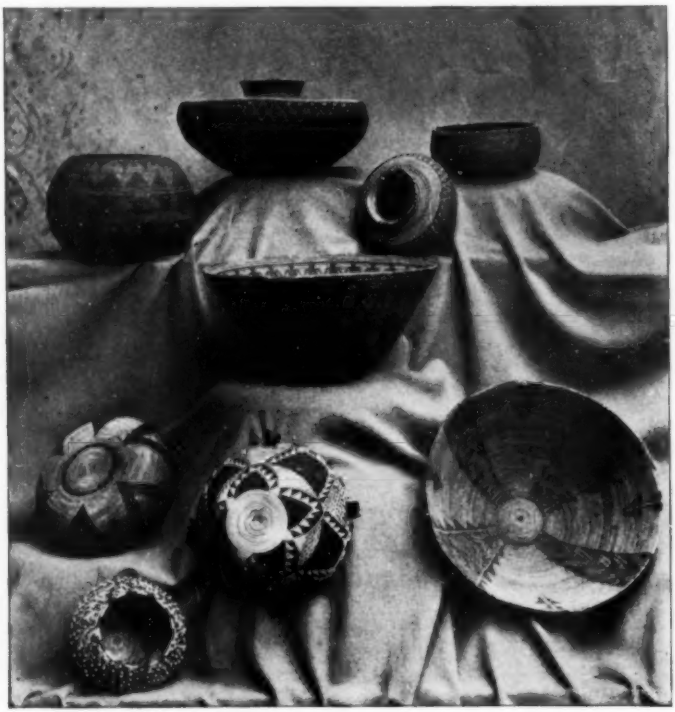
Contributions to American Ethnology.

but by the huge bundles of raw materials, flexile willow wands and long stemmed, wiry grasses, stored away beneath the supporting poles of her hut or wickiup. Thus provided, as described by the earliest American pioneers, the rainy season found her "everlastingly puddering, yet doing nothing." Nevertheless, in textile

art she had no peer. Simply out of the grasses of the field she created forms of beauty and grace, which, "uncontaminated by the complex conditions of civilized art, offer the best possible facilities for the study of esthetic development."*

And while the functional demands of her art were never lost sight of, or in the least degree subordinated, the environment, that its utter extinction is near at hand, unless it is preserved under the fostering hand of the government and perpetuated through the industrial education of Indian children, upon the reservations where the materials of basketry are still abundant.

The Pacific Coast baskets were originally made for carrying and



Baskets collected in the San Gabriel Valley.

shapes were equally perfect, and we may easily trace, in the evolution of both forms and patterns, the growth of an entirely new class of art products indigenous to the Pacific Coast. But so rapid has been the deterioration of the art of basketry under the more and more complex conditions of its storing water, as well as for the uses already indicated; and hence the lightest, cleanest and most durable materials were selected. These are found in various species of willow, the "chippa" of the Southern Indians, while the fibers of the red bud (Cercis occidentalis) served the same purpose in the North, and are equal to those of the palm and bamboo in flexibility

*W. H. Holmes, in Report of Bureau of Ethnology, 1884–5.

and strength. Among grasses used in the woof, the smooth, wiry culms of vilfa and sporobolus were preferred. Some very old, undecorated baskets are among the most perfect in form and texture, and we, therefore, conclude that having attained perfection in these respects, the native genius reached out toward surface embellishment for its more adequate expression. What they found to be the only mode of ornamentation which would not interfere with the smoothness and flatness of surfaces, and hence with might be made in basketry we never shall know,* but this is certain—the result has proved the capacity of our patient Indian drudge for development along the lines which have made the Japanese so wonderful a people.

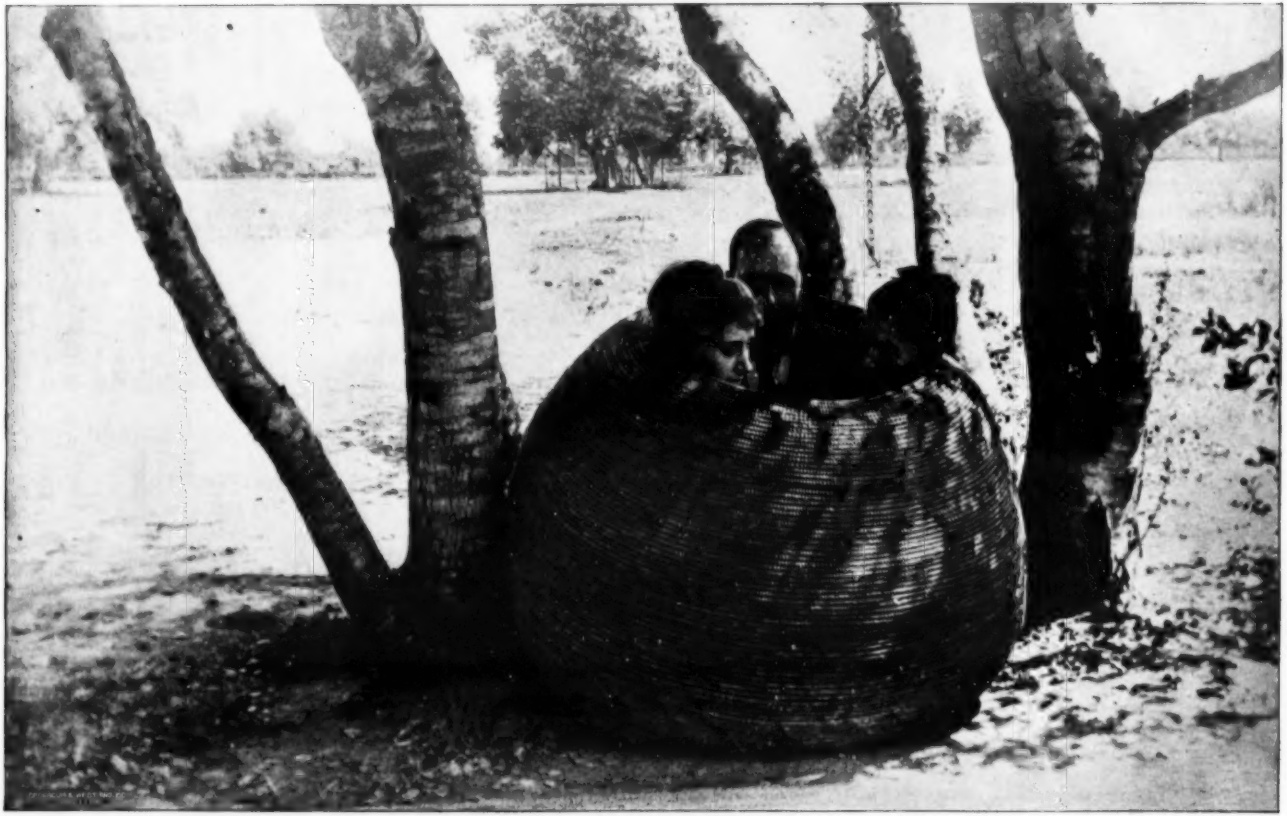
The finest as well as the largest California baskets are of the coiled variety. The simplicity of their construction is well shown in the illustration, which presents the bottom of a very old Indian basket from the Pauma reservation in San Diego County. Gregoria Majal, who made

The Home of a Basket Maker.

the durability of their work, was color. It is precisely at this point that the fine art of basketry has its beginning.

As the woof or willow coils always covered the more perishable warps of grass stems, the artist was necessarily limited to changes in the woof, and to purely geometric patterns. Every kindergartner knows how infinitely varied these may be, and how every new combination stimulates invention. How far back in the ages the discovery was made that, simply by breaking off the plain fillet and introducing a colored piece in its place, pictures it, wove such a granary for each of her three daughters, who are venerable women ; yet Gregoria's strength and skill are even now fully competent for work of this quality. This storehouse is nine feet and nine inches in circumference, three feet deep, and has only four coils or stitches to the inch of weaving. Fifteen stitches is considered a fine weave ; the finest ever seen by the writer had twenty-eight to the inch, and was truly a perfect work of art. It was beautifully mod-

*See page 605—Human figures in Dr. Sherk's illustration.



Large Basket in the Collection of Mrs. Jewett, Lamanda Park.

eled on an acorn pattern, the point of the acorn being cut off, and a flat bottom substituted just where it was required to give the basket secure standing. A perfectly imitated acorn cup formed the cover, in the center of which an exquisitely modeled basketry acorn served as a lift or handle. The body color was broken by the regular introduction of three different shades of brown, giving the whole a rich, beaded appearance, like that of the central basket in the frontispiece. This precious basket was an heirloom in one of the old Spanish families of Los Angeles.

The Indian women were very skillful in the preparation of dyes and mordants, and of the colors used, black red, and various shades of brown, were permanent. The basket hats in common use were of plain colors, and left to steep in the dyes for months, a quantity of pigeon's dung being used as a fixitive. The tribes of Southern California, even those dwelling in the forest regions of Kern and San Bernardino, made little use of spruce or pine roots in their basketry. Nor did they ever use the inner head band, or employ any totemic decorations, like the Haidas of the northern coast. Feathers and shells, though sometimes seen in very old baskets, were more sparingly used in the South where insect life is far more destructive.

With her bundles of well-soaked grasses and willow "splits," the basket maker seats herself in a shady spot with a shallow vessel of water beside her. Taking as many of the grass stems as the nature of her work requires, she wraps the willow firmly and evenly around them for the first, or initial coil. In the second coil the willow is passed through each turn of the initial coil as the winding proceeds, thus creating a system of steps, or stitches, and providing for variations in size and shape on the same principle as that which is applied in knitting and crochet work. Bone needles are used to hold the willow strands firmly in place whenever the operator leaves her work; the strong wing bones of the hawk being preferred for this purpose.* We have now reached a point where we see that our artist has no freedom, but is wholly dominated by technique.† She must have clearly in mind, not only the form, size and special function of the work to be created, but the number of colored stitches required in every row, for each of the figures, and of uncolored ones in the interspaces, must be exactly calculated for every separate line.

The more we study the evolution of the basket, the more astonishing seem the results, until we are willing to concede, not six, but sixty thousand years for the evolution of the basket maker. Perfection of shape is more easily accounted for in the perfection of Nature's models; but even that is becoming contaminated and debased by "untoward exotic influences," resulting in a loss of equilibrium, and the balance of motives and desires.‡ The introduction of extraneous substances, such as beads and feathers, belongs to a comparatively late period in the history of the art. In the feather work of the interior tribes we find proof of the delicacy of the native taste; no inharmonious colors are used; and while the splendor of the color seems to have answered every demand, this was often enhanced by contrast. The earliest explorers and discoverers of the Pacific Coast reported the beauty and perfection of this work of the Indian women; and the Russians of Fort Ross were among the first to send it to Europe.

Mr. Stephen Powers describes a fancy work basket "covered entirely with the down of woodpeckers' scalps among which were a great number of hanging loops of strung beads; and around the rim an upright row of little black quails' plumes gaily nodding." There were eighty plumes,

*These needles passed as heirlooms from mother to daughter, and were carefully treasured along with gambling dice and strings of shell money.

†W. H. Holmes.

‡W. H. Holmes.

which required the sacrifice of as many quails; and at least a hundred and fifty woodpeckers had been robbed to furnish that royal scarlet nap for the outside. The squaw was engaged for three years in making it, and valued it at twenty-five dollars. The Gualala women are even now superior artists, as is shown in the illustration, (see page 609). In the North bottom-

Showing the Degradation of Basketry.

less baskets were often seen; these were placed upon flat stones where acorns were pounded; and not cemented around mortar, as in the south.

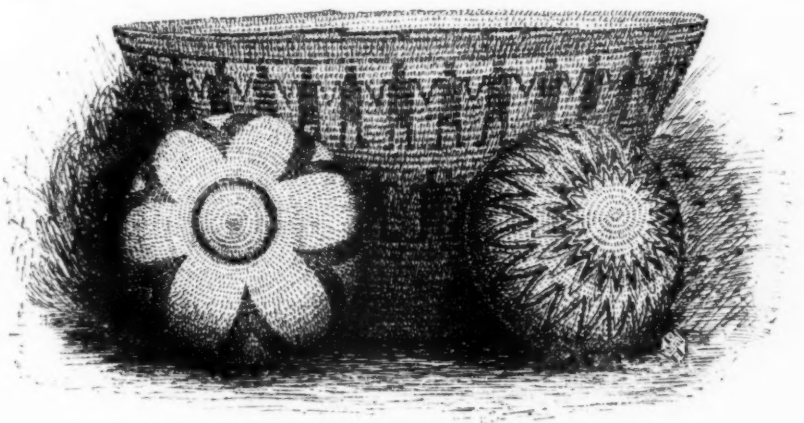
It is very interesting to notice the important part which the basket plays in the legendary lore of the native Californians. No story, sacred or profane, can be told without its help. In the south the god, Chinigchinich, whose superb tobet or robe of feathers rivaled that of Montezuma in splendor, was secretly served in the vanqueech or temple from the choicest baskets; after these were emptied by him, they were cherished greatly by the women who had made the offering. The following legend is preserved by Mr. Stephen Powers:

"There were once two rival chiefs on the upper Sacramento who were addicted to gambling, one of whom was a sorcerer, and had a hollow body. His arms also were hollow tubes, so that he could slip his pieces from one hand to another without being seen. Thus he won everything possessed by his adversary; lands, wife and children. The entire tribe was removed to a distant region, leaving to the unfortunate victim only a daughter and one old Indian woman. In this

extremity the daughter went forth with a basket to gather clover, for they had nothing else to eat; not so much as a bow and arrow had been left behind. There fell at her feet an arrow, trimmed with yellowhammers' feathers. Turning to take up her basket there stood beside it a man, who reassured her by saying that he was only the Red Cloud which she daily gazed upon in the evening sky, and bade her not to be afraid. She modestly proffered him her basket of grass seed pinole, which was all she had to give; whereupon the radiant stranger touched the basket, when the pinole vanished, and the girl fell upon the ground in a swoon.

"When she came to herself Red Cloud stood beside her, and she had given birth to a son. She was full of joy and wonder at sight of the babe; but the Red Cloud assured her that he was not of this world. He then placed the babe in a basket, and laid beside him all kinds of Indian weapons, bows, arrows, etc., then vanished from her sight. Then the young mother took up the basket with her babe, and turned towards her father's lodge; looking back over her shoulder, the Red Cloud had disappeared, and she saw him no more. When she reached the lodge she was afraid her father would not believe her miraculous tale; and therefore hid her boy in the Assembly House behind the great basket of acorns. The old chief soon after entered the Assembly House, where he sat brooding over his folly and misfortunes, when he was amazed to hear a sound 'like the ticking of a bug in the wall.' He called his daughter to explain this, but she was afraid to tell him that it was the beating of her child's heart, and kept silence.

"But very soon after there was a sacred dance in the Assembly House, which, as usual, was held at night, and lighted by a fire of willow wood. A coal snapped out and fell upon the dry basket in which the young child lay asleep. He sprang forth, full grown, and called his grandfather by name. But the old chief said, 'My daughter has no husband.' When the mother was called, and related the strange story of the child's birth, they did not believe her until the young chief told them about many of their relations whom he had met in the land of spirits. He then at once assumed the size of a man and the position of a chief. He followed the sorcerer who had won his grandfather's tribe in a

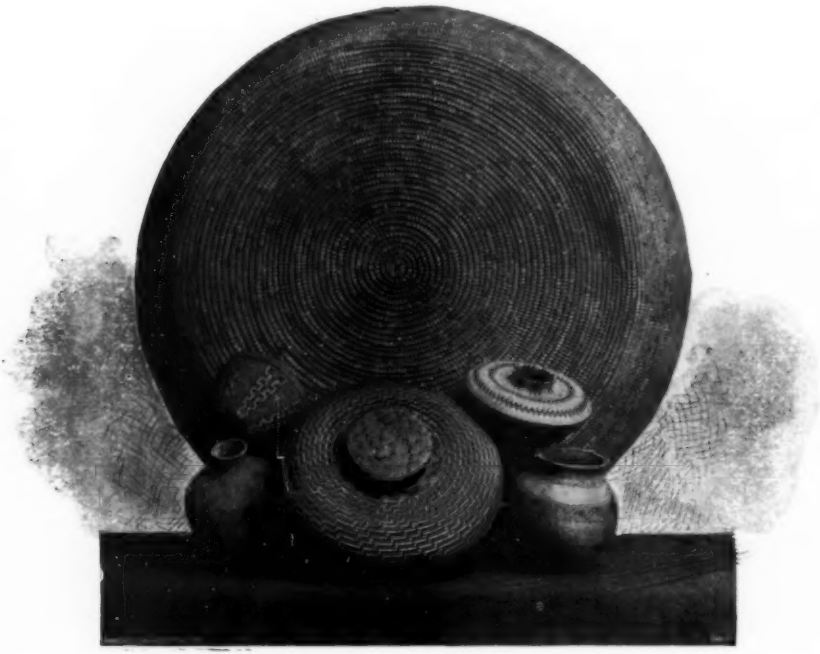


From a Los Angeles County Collection.

gambling game, and soon won them back. In the joyous reunion that followed, the son of the Red Cloud counseled his mother's people never again to sacrifice their parents, brothers and sisters so foolishly, and thus incur tribal annihilation."

Strange to say, the Yokut basket makers maintained the fullest equality with the men in respect to gambling, and invented dice and dice tables which were temptations in themselves. They wove a large, flat basket tray, with curved and decorated edges, using eight acorn shell dice inlaid with abalone shells. With these, four squaws played the game, while a fifth kept tally with fifteen sticks. The acorn shells were first filled with pitch; when hardened, this furnished the field for inlaying. In the south, the larger and stronger shells of the California walnut were used. As described by Mr. Powers, the evil spirit of gambling was incarnated in an old squaw, with scarcely a tooth in her head, one eye gone, and her face all withered, but with a jaw of iron, and features denoting an extraordinary strength of will. A reckless old gambler grabbed the dice, throwing them with savage energy, as if unaware of the presence of anyone around her.

The Southern Indians were of a different type, and yielded more readily to the forces of civilization, yet with all their savagery there were no better basket makers than those fierce



From the Tulare Indians.

Upper, bottom of Grain Basket, shown on page 602.
Center of group, Fancy Basket, used to hold wampum and trinkets.
On right, Fancy Basket.
Below, Water Jar.
Lower left, water tight Carrying Basket.
Upper left, Hat, very richly shaded and decorated.

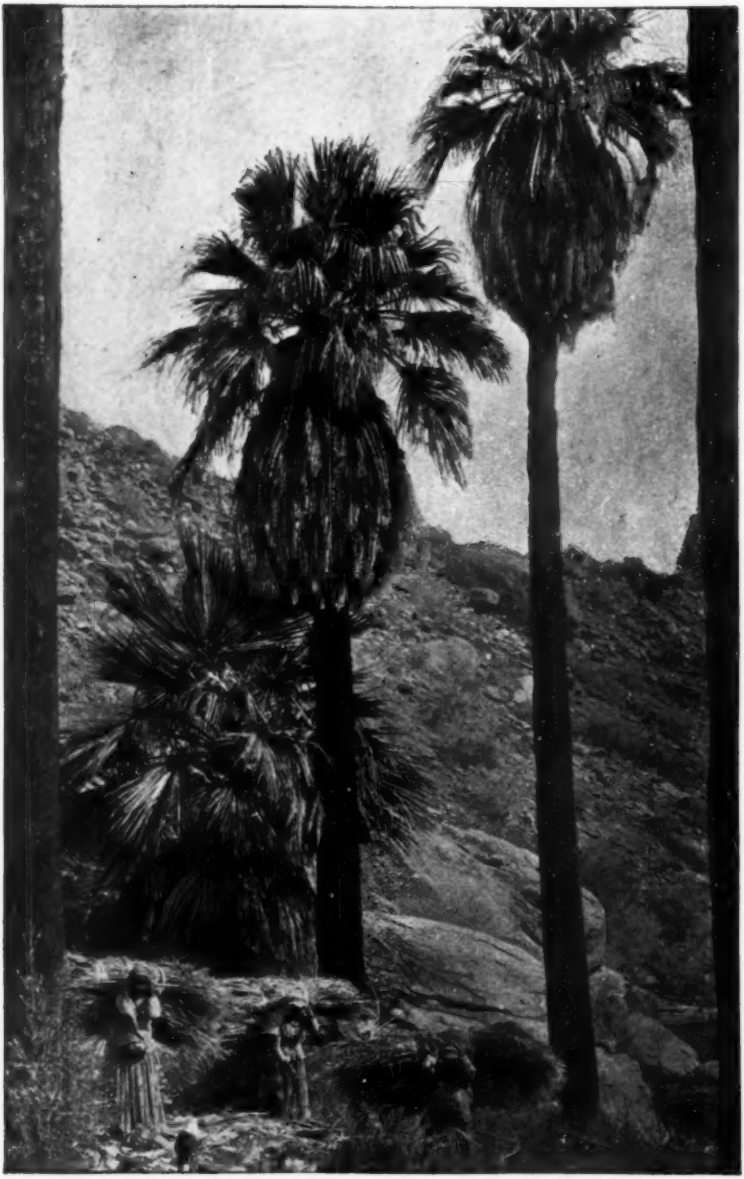
old hags of the Klamath and upper Sacramento rivers. Jacinta, one of the last surviving neophytes of Father Junipero Serra's flock, was brought to Pasadena in 1888, with all the materials and implements of basketry, to assist in illustrating it during an Art Loan Exhibition. Passing up the nave of the Library Building where Navajo blankets and the fine Crittenden collection of Indian curiosities from the Gulf of California to Alaska, attracted attention, the dim old eyes of Jacinta fell upon the display of basketry. It was touching to see her interest aroused as she gradually recognized her own work, which she took from the shelves, fondling it with her small brown hands, as a mother would linger over the playthings of a dead child. Whenever the crowd diminished, Jacinta was seen examining her treasures, which were woven early in the century. It is scarcely to be expected that such a collection will ever again be gathered, as since that time the State has been ransacked for baskets in the interest of Eastern and foreign collections, and of speculators in their artistic value. There yet remain some valuable private collections in the possession of owners notably interested in the perpetuation of this beautiful art. There is an indescribable magnetism attaching to them, altogether different from any other feminine property. Collectors and dealers find it harder to part with them than with articles of far greater value, and reserve certain favorites for the elect among customers, who are likely to cherish them.

The degradation of the art of basketry has rapidly followed the change from life in wild nature to a semi-civilization opposed to the instincts and too often to the interests of the basket makers. The question whether the native races can be made a part of our social and political structure was partially answered by a model agent of the government with the Mission Indians.*

Indian Home with Roof Granaries, San Diego County.

He said: "Under the Missions the wild Indians became masons, carpenters, plasterers, tanners, shoemakers, blacksmiths, cart-makers, weavers and spinners, saddlers and shepherds, vifieros and vaqueros; in a word, they filled all the occupations known to civilized society. Nearly every Mission church could show quantities of exquisite lace and Mexican drawn work made by the skillful fingers of Indian women. Too small in numbers to be longer feared, the question is worth considering whether there is not in the aborigines of California special adaptation to lines of usefulness otherwise unfilled. Many thoughtful citizens believe the native races are as well worth preserving as the Sequoia groves and other great forests which were once their wild pastures, and that the way to do it is

*Hon. B. D. Wilson.



Cahuilla Indians Collecting Basket Material among the Palms of Palm Cañon.

by the education of Indian children, wherever possible in their natural surroundings, and along the lines of natural tendency."

There is not an Indian reservation in Southern California where the materials required in basketry may not be grown as well as any other crop. Hundreds of acres of tule lands could be reclaimed and devoted to the culture of the Japanese bamboo. Combined with the various manufactures founded upon willow culture, ornamental basketry might include a great variety of useful and artistic creations. The gambling trays of the Yokut women would serve well as fancy table tops; and what an ideal nest would a cradle of fine basketry be with a delicate open-work border around the hood!

High Art in Basketry—Bead and Feather Work.

As the Indians of Southern California have retreated into the mountains, the sheep have followed them, destroying the grasses and tender shoots of willow as they go. One must now penetrate the remoter cañons of the northern and southern Sierras to experience their mysterious charm in its fullness. One marvels that human ingenuity can find wherewith to spread a table in such a wilderness of rock and chaparral; but if we follow one of our basket makers to her eyrie, suddenly we startle a quail, a jack rabbit bounds from his covert, and the longing cry of the wood pigeon is heard. Suddenly again we emerge from the shadowy cañon and a typical Indian home is in sight. A brush fence keeps a few cattle from straying; the hut is warped from its original form, yet is strong enough to sustain the basket granaries piled upon the roof. A dozen or more of their scattered Indian huts make a village, of which there are several in San Diego county. The largest of these are now furnished with schools and teachers.

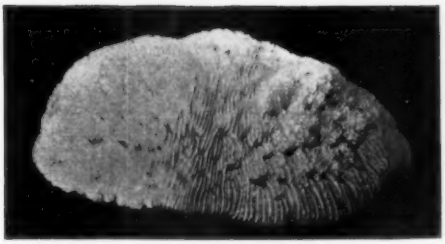
On the southeastern edge of this county and within ten miles of Seven Palms Station, on the S. P. R. R., there is an uplifted valley which seems to have been dropped here from another continent or zone. Approached from the hot plain below, it is a mere "wady" on the rim of the desert, along which the Cahuillas gathered their most precious stores; pine nuts from the superb forests of San Jacinto, their patron mountain, and richer crops from the palm trees whose seeds

have been distributed throughout the world. This romantic spot is better known as Agua Caliente, from the warm springs which were favorite resorts of the natives long before Cabrillo's ship had touched the islands of the coast. Old Francisco, capitan of the warm springs village, was one of the workmen employed in building the San Gabriel mission. He was the first to substitute the worship of the virgin and the Holy Babe in the vanqueech, or temple built of willow twigs, where his ancestors had been instructed by Quaguor, the god of the mountain from the earliest times.

The weird charm of this uplifted valley is indescribable, when late in the afternoon one wanders through the cañon where the Whitewater comes leaping down from the summit snows in a series of lovely cascades, or mounted upon a pony, rides up the valley to meet the old squaws trudging homeward under their burdens of thatch, or materials of basketry. There are a few large fig trees and ancient vine stumps near the spring, which were planted by the padres who were in charge of the San Bernardino mission. At the time of our visit, a long descended heir of old Francisco lay basking in the warm sand, near the brush house where we bought the basket handiwork of his mother, grandmother, and great grandmother; and also an olla or water jar, fresh from the kiln. The young Indian offered to guide us into the summits of Mts. San Bernardino and Jacinto to the southern Fusiyama, where wild sheep and deer still linger, but upon us also was laid the spell of "drowsy indolence," as we watched the crimson afterglow fade over the silver sands of the desert.

No mere purchaser of Indian baskets can enjoy his possession like one who finds them, or whom they find in unexpected places and ways. Thus the writer's first basket was bought in the To Senute Valley in 1869, of a squaw whose wickiup stood under the shadow of the great rock, named from its resemblance to the hood of an Indian baby basket. Seeing our admiration of her finely woven baskets in common use, the good-natured squaw obeyed a hint from Mr. Hutching's young daughter to show us her best, a decorated one, which, by the subtle law of association, has never failed to reproduce that perfect hour and scene. At a lately abandoned rancheria near the San Luis Rey mission, lived the oldest of the California basket makers, among five generations of her descendants. I have never seen so interesting a human being. A talking tree would not be more remarkable. An organic sense of kinship, deeper than any sentimental feeling, took possession of me as I watched her under that Southern sky, as if I had found Mother Eve in the primitive garden. The wonder is not that people live so long in this climate but that diseases and sins should exist here at all; for her they had never existed. She had served Father Boscana while he gathered up the history and mythology of her race, and Father Lalvidea also, as simply as a tree grows and gives shade to the woodcutter. The "coras" useful and ornamental, made by this ancient neophyte, would furnish a museum. She saw the land in its pristine loveliness, witnessed the growth of this royal mission, with its encircling cloisters, its gardens and fountains. A hundred of her kindred and descendants here received their baptism and burial.

Where the grasses for her basketry grew thickly in the moist glades, there are now overstocked pastures and cultivated fields. And so the last of the neophytes baptized by Father Peyri has gone far back into the mountains to wait for death beyond the sound of the mission bells. Happily for such as these, neglect of the aged is not among the failings of the South California Indians.



ON A CORAL REEF.

BY CHARLES FREDERICK HOLDER.

AS I write I have before me, among others, a beautiful rose-shaped bunch of coral identical with Figure one. Twenty-eight years ago I espied it while drifting along over the great coral reef that reaches away from Florida in the direction of Yucatan, and my sensations as I dived down into the clear water are as well remembered as if it were but yesterday. The species had, so far as we knew, never been found there before, and its discovery marked a red letter day on the reef. There was a dead calm—not a ripple disturbed the surface ; the coral islands, which marked the growing atoll, seemed resting on a sea of quicksilver; their tops of green mangrove encircled by rings of gleaming sand, affording a marked contrast. The gulf stream swept noiselessly along —a mighty river about us—the only sound the occasional melodious cry of a laughing gull or the sigh of the waves as they broke upon the dead coral of the outer reef; a marvelous sight it was in its very restfulness and beauty. The boat was gliding slowly over a world beneath the sea—a coral city populated by uncounted millions ; a city laid out in streets, narrow byways, paths and broad avenues, down which floated inhabitants as strange and weird as the imagination could picture. The water was about four feet deep, and rising to half of this distance was a mass of branch coral (madrepora) (figure 2) that spread away, an olive-tinted field, for many acres. Each branch was made up of little points or cones ; the individual polyps, that appeared like flowers—the entire mass being a rich olive hue, with here and there white or dead tips standing out in high relief like pompons. Instead of growing in a solid mass, the coral grove was cut up by channels, two or three feet in width, that wound through it like rivers, so that dropping overboard I waded through these coral streets upon a pure white, sandy bottom. The comparison to a city of the sea was most apt. Each little point represented a living inhabitant connected with the rest by a mysterious bond, yet possessing individuality; and as I waded along, the boat following, I took the census of the town. Here was a branch that might have been the city hotel. The first story at the very base, was inhabited by several craw fish very similar to our Pacific form, but a rich yellow, their serrated whips moving suspiciously to and fro in sharp contrast to the sand. Among the branches hung a great red star fish, while near the base of the branch was one of the singular living stars, the basket fish (Asterophyton), which attempted suicide as I lifted it, dropping its arms in every direction. Wishing to ascertain the possibilities of this house, I lifted the branch and placed it upon the deck of the boat, and from it came squirming a motley array of forms—worms, crabs of various kinds, one a rich blue spider-like creature, a veritable gem ;

black, long-spined echini guarded the interior rooms, while little white echinoderms dropped out at the slightest jar. Down among the roots—if roots we can call them—were several large micramocks, their richly polished shells covered with the mantle the animal throws out, and in every branch were highly colored pectens and other shells that had cast their fate with the coral branch, making a host whose life history would have filled a volume. Along the sandy street crawled a large conch (strombus) moving slowly by the aid of its swordlike operculum which was thrust into the sand and used as a lever; ahead of me swam fishes of the brightest hue—angel fishes with stripes of yellow and purple, Hæmulons of vivid tints, brown-eyed snappers, cow fish

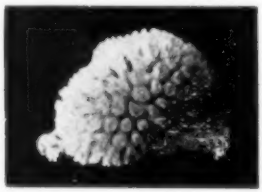


Fig. 1—Rose Coral.

with veritable horns, finny porcupines and a host of others swam away on either side disappearing in the maze of coral points.

On the outer edge of the coral forest the water deepened, and taking to the boat again, I drifted on gazing down into the water for specimens of the queen conch or other rare forms that might be seen, and it was here, not far from the wreck of an old ship, that I espied the rose-like coral. The water was but fifteen or twenty feet deep, and the slightest object was plainly seen. Big holothurians like caterpillars laid about in great profusion; colonies of echini and small conches, while here and there a great sea anemone spread out its flower-like mouth in imitation of the surrounding weed. Suddenly we came to a patch of short brown algæ, and for a single second I caught sight of the brown polyps of the specimen shown in figure one, and a moment later was going down to it and soon brought it to the surface—a prize, indeed, as in months of search but one or two similar pieces were found in this particular locality.

So clear was the water of the gulf that the diver could distinguish objects for no little distance while swimming beneath the surface. I once attempted to determine the perpendicular height of a bed of branch coral growing upon the edge of a channel. The latter was one of the peculiar rivers of blue that cut into the shallow lagoon of the atoll, forming a trench so deep that the bottom could not be seen, yet the sides were almost perpendicular, formed apparently by the overhanging madrepores (figure 2) growing on the lagoon. To show how precipitous were these banks, I could stand on the edge and dive into deep blue water. My companion kept the boat over the spot, and I slipped over and went down into the depths that seemed as blue as the vault of Heaven. I could distinguish objects four or six feet away with perfect accuracy, and I swam down the face of the coral bank about this distance from it. How far I went I have no means of knowing, but I left the warm water of the upper surface behind, passed through several strata of various degrees of temperature, reaching a depth which might have been thirty feet with the wall of coral points still presenting a bristling front and perfectly perpendicular as far down as my eye could reach. In a rapid glance I caught visions of angel fish among the points; saw the black pointed head of a murray apparently eyeing me, and saw fleeting visions of other forms in the distance. For seventy or eighty feet the perpendicular wall of bristling points must have extended in this almost land-locked channel, far deeper, probably, than it would have descended in the colder waters of the outer reef. In these

excursions into the waters of the reef, I was particularly struck with the fact that the body of water was permeated in every direction with currents of varying temperature. The line of demarkation was so marked in some cases fifteen or twenty feet below the surface that the outstretched hands would be in extremely cold water and the feet in a current much warmer. There was a constant change in temperature showing that currents of

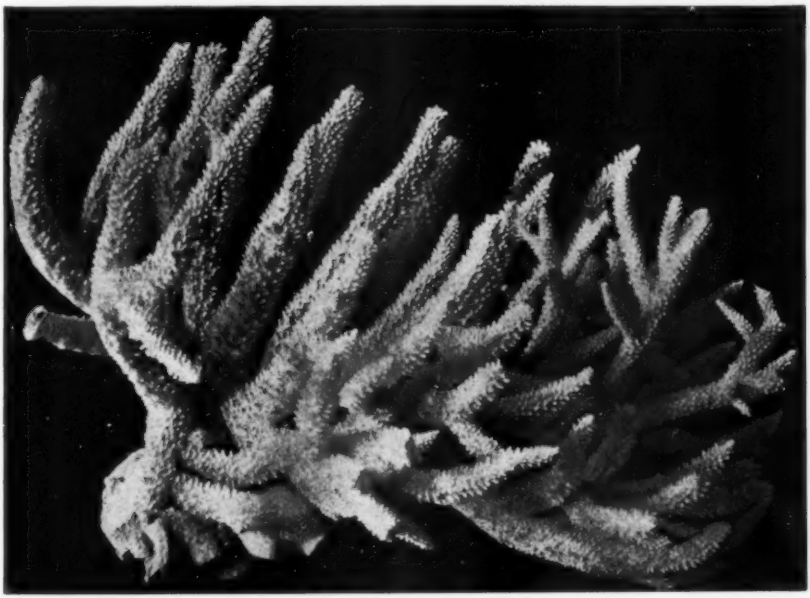


Fig. 2—Madrepora Florida.

varying degrees were flowing in every direction—literally, rivers in the water itself as air currents flow through the atmosphere.

On this great reef there was a wide diversity of coral life, well illustrating the range and variety taken by these attractive forms. Portions of the lagoon, as we have seen, were covered with the shrub-like madrepora or branch coral on the shallows. Its branches were short, as in figure 3, but on the edges of the channel they became longer, reaching out like horns. On the edge of the lagoon we found the broad leaf coral spreading out like the antlers of the moose, and surrounded by the richly tinted sea-fans or gorgonias, presented an attractive appearance. Perhaps the most interesting forms were the great heads of astrea or mæandrina. They evidently preferred the sides or edges of the deep channels, and attained enormous dimensions, single heads evidently weighing over a ton, and one which I recall to mind must have weighed, before it had begun to decay, several tons. It was over three feet in height and six or seven feet in length, but the interior had been destroyed, so that it was like a gigantic living vase. The exterior portion was covered with living polyps, the surface dotted by the richly colored mouth parts of boring worms that resembled flowers scattered over the olive-hued surface. In the vase, craw-

fish made their home, wonderfully tinted angel fishes, crabs, sea fans and many more, so that the "head" was a veritable aquarium. Among the

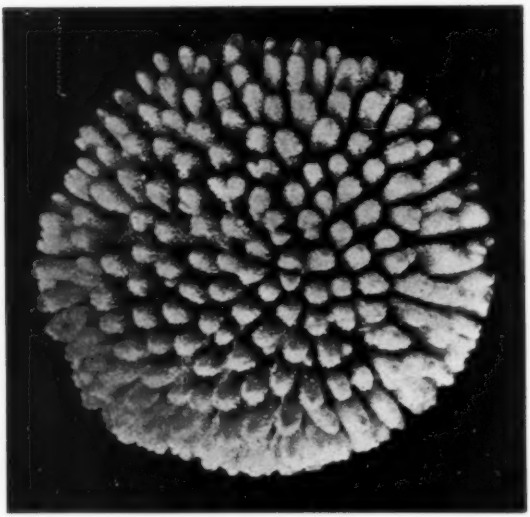


Fig. 3—Madrepora Nasuta.

illustrations of this paper, which are photographs from specimens in the collection of the San Francisco Academy of Sciences, a few are from the Florida reef, others from the tropical Pacific, where the most marvelous coral growths are found. It is a singular fact that while coral is one of the commonest objects, the general public has a very erroneous idea of its nature. Not long ago I listened to a most interesting sermon by an eloquent and distinguished divine, in which he referred to the coral *insect*. Shades of Agassiz! Can such things be in this day, when a wave of popular science seems to have swept over the land and left natural-history societies in almost every town and village? I believe Montgomery, the poet, is responsible for this singular error, the lines "the coral insect works ceaselessly" having traveled faster than facts. In truth, the coral is no more an insect than is a horse, and between a fly which we may take as an example of an insect and a coral polyp there is a vast gulf. What, then, is coral? Few readers of the CALIFORNIAN but have seen a sea anemone (figure 4), the soft, often richly colored flower resembling creatures that cover the rocks below tide-water on nearly every shore. The anemone is a polyp, a columnar object from one to six or eight inches in height. The base or lower portion is in most instances a sucking disk by which the anemone fastens itself to the rocks and by which it moves slowly along. At the top or upper portion is the mouth, surrounded by tentacles long or short, according to species, and often colored in a most striking manner.

The anemone can contract so that it appears to be a simple prominence on the rock, or can expand so that it resembles a full-blown flower, and in other days it was considered a sea flower.

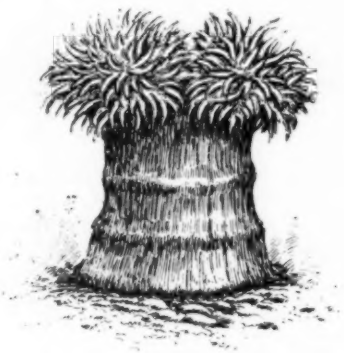


Fig. 4—Sea Anemone with Tentacles Expanded.

The tentacles are feeders or arms, armed with little cells which contain minute javelins or lassos (figure 5).

A delicate crustacean comes in contact with them, is pierced, and while held and possibly benumbed, drawn down to the anemone's mouth and engulfed; the eyes are numerous and at

Fig. 5—Lasso or Dart of a Polyp.

the base of the tentacles. If we should wish to push our investigations further, we would find that internally the anemone was divided up by fleshy partitions which radiated from the side to the central portion of the column. These partitions are perforated by an orifice, so that food taken in at the mouth, then passing into the stomach, finds its way into each of the chambers so formed. Figure 6 shows an ideal view of this division and the central mouth, and is sufficient for our purpose. The anemone is a first cousin of the corals, and if the reader can imagine an anemone that has the faculty of secreting lime and depositing it in the chambers referred to, he or she will have grasped the true coral idea. In brief, a single polyp coral like Fungia (figure 8) may be termed a lime-secreting sea anemone—a very

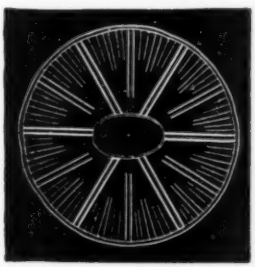


Fig. 6—Ideal Section of a Coral Polyp or Sea Anemone.

different thing from a fly, spider or any insect. In point of fact, the coral does not build reefs, does not pile up or mould as a wasp; it insensibly secretes carbonate of lime, according to a law of nature, and its labor and industry which are so feelingly referred to by the poet are no more to be considered as such than are the secretions of bone in the human frame. It may be interesting to briefly trace the growth of a coral reef or island, and note the evolution from a submarine hilltop to an atoll, with its coral groves and islands capped with palms and mangroves, affording a refuge for birds and ultimately mankind. The sur-

Fig. 7—Dendrophyllia.

face of the earth has been subject to great changes in past eras of time, and the various portions have been successively above and below the surface. We may assume, then, that if the water was taken from the Gulf of Mexico, we should find hills and valleys, just as we do upon land. Let us imagine that where the Tortugas group now stands there were, ages ago, a group of hills, their summits perhaps several hundred feet from the surface, and there being no evidence of madrepores or other reef-building corals there. If we could have visited these hills, we should have found them covered with ooze or fine mud, now known as the globigerina

ooze, from the fact that it is to a great extent formed by the shells of a little Rhizopod called Globigerina. These

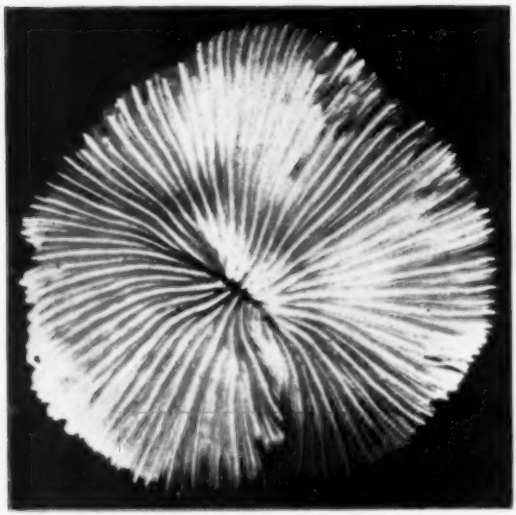


Fig. 8—A Single Polyp Coral Fungia.

delicate and almost invisible creatures swarm in the ocean, and with other forms drift about, among the most minute yet powerful factors in the work of continent making.*

These rhizopods and others are continually dying and their falling shells constitute a continuous oceanic rain upon the bottom that is ever accumulating and heaping up. The globigerina secretes a shell of carbonate of lime, and dying contributes its mite to the bottom, thus adding to it. A grand result of this is seen in the white cliffs of Dover, and the bed of the ocean where the crust is not actually sinking, is slowly rising under the continuous fall of these and other shells. Our hilltop in the gulf of Mexico, then, is slowly rising; it is capped with the ooze, added to by countless other agencies, until finally in long ages it penetrates a zone one hundred and fifty feet, we will say from the surface where reef-growing corals flourish; eggs of the coral come drifting along, become attached to a shell and soon what appears to be a little anemone is growing and throwing out its tentacles. If we could examine it in a few days we should find a delicate deposit of lime in the interior, and on the edge, and soon what would resemble a single polyp taken from figure 2, has taken shape. This separates or divides, or another polyp appears growing at its base. Soon another appears on the other side, and finally we have the original polyp growing upward, as the tip end of a branch surrounded by other polyps and seemingly encased and surrounded by a skeleton of carbonate of lime. This growth continues and thousands and millions of polyps are developing in various ways, until, in a few years, we have a vigorous growth of coral upon the hilltop; the coral animals or polyps now throwing out

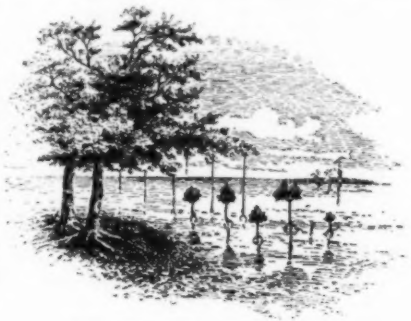


Fig. 9—Young Mangroves taking Root.

their delicate arms or tentacles feeding perhaps upon the delicate globigerinæ whose progenitors made their existence

*The vast number of these forms floating in the ocean can be realized from a statement by Murray, who says that if lime-secreting organisms are as numerous down to a depth of six hundred feet as they are near the surface, there would be more than sixteen tons of calcareous shells or carbonate of lime in the uppermost one hundred fathoms of every square mile of the ocean.

possible. Other species of coral add to the colony. The gorgonias or sea fans and plumes, halcynoid corals

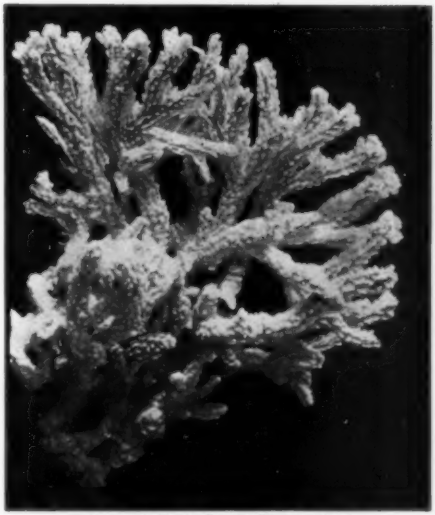


Fig. 10—A South Pacific Branch Coral.

(figure 12) take root, shells, crabs and myriads of forms, join the colony, and the upward growth continues. All this time an army of disintegrators has been at work, enemies of the coral have destroyed it, burrowing shells have delved into it, and the dead branches have broken off, fallen down to add to the growth; new corals attach themselves to the old branches, and so the growth goes on until finally in years the hilltop has reached to within a few feet of the surface, becomes a menace to navigation, and is known as a coral reef. Its shape depends upon that of the hilltop and is affected by the prevailing winds and currents. Upward it grows until finally, during a very low tide the tips of the coral branches are exposed and die. A storm now beats up the dead coral rock into a wall, grinding it up still more and making coral sand. The sand in the vicinity, which possibly a lime-secreting plant has been making, is washed up against it, and finally, one morning, a plover espies a spot on the blue waters and alights; the discoverer and first inhabitant of a new-born coral key. Just such an island I watched for several years. Sometimes it was large enough to land on, and once we found a few bunches of grass and an egg. The following season a hurricane destroyed it, but in the following year it reappeared, and now, I have no doubt, is beyond the time of struggle and is a full-fledged island. The next step in the history of our island is the establishment of trees. The currents bear seeds of all kinds, the birds bring some and one which resembles a cigar now strands upon the beach of a sheltered flat. It stands

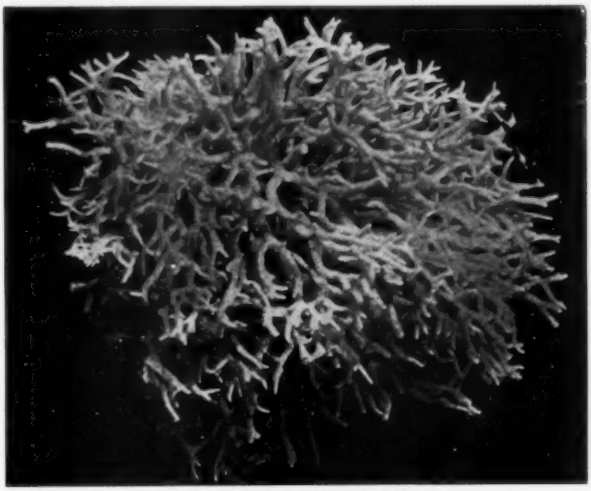


Fig. 11—Branch Coral, Pacific Reef.

upright in the water and from the lower portion throws out several roots and soon obtains a foothold and we have a coral key with a mangrove tree that by a system of rooting (figure 9) adds materially and rapidly to the stability of the island which, in a few years, may be the home of man.

This gives a very general idea of the growth of a coral key of the type observed on the Florida reef. Taking Bush key of the Tortugas group as an example: upon my last visit it was, perhaps, sixty feet long; was made up of dead coral heads on the sea front, while on the lagoon side a white sandy beach sloped down; a growth of grasses covered the summit, and six or seven scraggly mangroves twenty feet in height held aloft as many pelican nests on the southern side. A most interesting spot it was from which extended a long line of partly submerged reef upon which the sea broke with a sullen roar. Since then a hurricane has completely wrecked the island, and for the time washed it away. Reefs have been given various names to distinguish them, as fringing and barrier, while an atoll is a reef inclosing a lagoon. The one forming at the extreme end of the Florida reef being a typical example, while the Pacific Ocean affords some striking ones. One of the largest reefs is the great barrier along the Australian coast for one thousand miles, with an average width of thirty miles. Among the many misconceptions regarding coral is that it requires very warm water. This is not true of all kinds; the single polyp corals, as Fungia, (figure 8) is found in very cold water and at vast depths; thus Fungia symmetrica has been taken from shallow water and from a depth of three and one-half miles below the surface, where the temperature was but little above freezing and the pressure enormous. Coral does not grow so slowly as one would suppose; the madrepores of the lagoon (figure 2), mentioned

Fig. 12—Corallum.

in the present paper, grew three or four inches in a year on the islands observed, while a specimen* of maeandrina convexa, which was watched by Dr. J. B. Holder, doubled its size in a year, or grew at a rate of one inch a year under unfavorable circumstances.

I have walked along a coral reef in New York State in the Helderberg Mountains—a fossil reef, that flourished there millions of years ago when the State of New York was in the tropics and its famous mountain range the bed of a coral reef, suggestive of the great geological changes that have passed over the globe. To-day the area of coral growth is more restricted. Corals are found off the Pacific Coast. The little white velvety Astrangia is found on the New England Coast — the only actinoid coral found in these waters. The area of the reef builders is more restricted; they are confined within the latitudes of thirty-five degrees, the northern limit in the Atlantic being the Bermuda Islands in latitude thirty-two degrees; the longitudinal range presents many interesting features. Thus, the greatest growth of coral is usually found on the eastern coast of continents. There are no great coral reefs on the west coast of tropical America, while the eastern coast abounds in them. The Atlantic Coast of Africa is not marked by large reefs, while that portion bordering on the Indian Ocean is famous for its corals. The vast reef on the eastern shore of

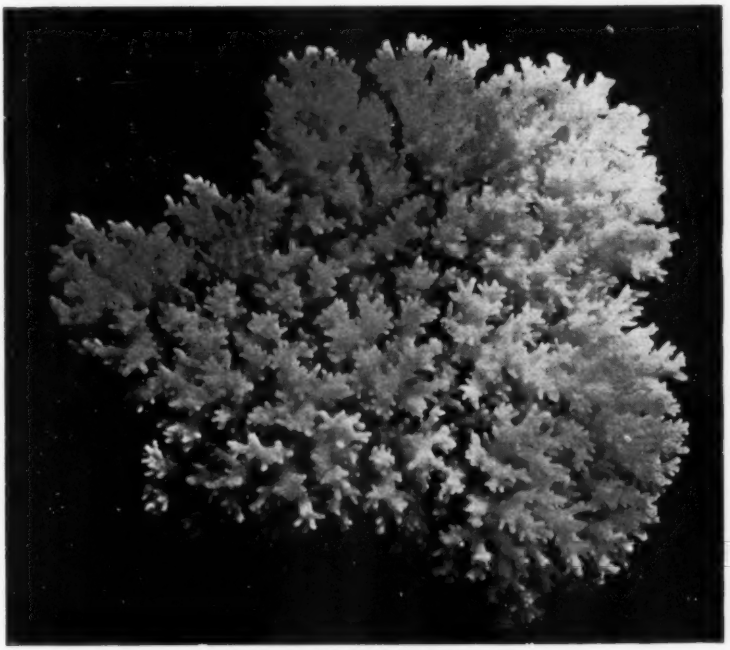


Fig. 13—A South Pacific Branch Coral.

*[A cut of this piece of coral can be seen in the writer's text book "Elements of Zoology." The head was kept in a tide-water aquarium on the reef where the food supply was poor; when placed in the aquarium, the head was on the edge of a brick, and passed entirely around in a year, doubling its size. A report of this was made by Dr. Holder and Prof. William Stimpson to the Chicago Academy of Sciences, and occasioned great interest, it being supposed previous to this that the growth of this coral was very slow.]

Australia nas been referred to, while the western coast is almost destitute of corals. Without going into an analysis of the various causes which produce this, it may be said that it is due, in the main, to the direction of the large equatorial currents of the two oceans.

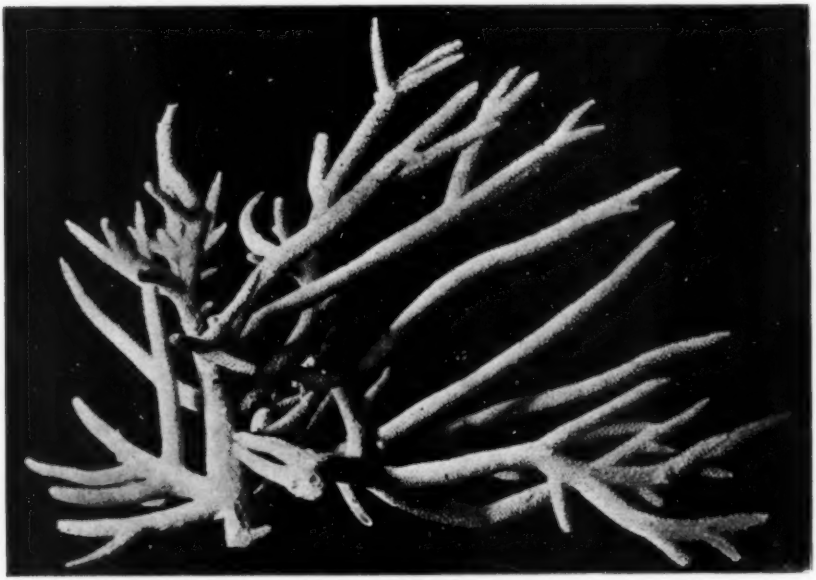


Fig. 14—Madrepora Virgata.

The coral which we see in the museum is but the sun bleached skeleton. The natural color is various shades of olive; vast quantities are placed on the market annually—the industry of collecting and preparing it affording occupation to many people. The red coral of commerce — that is termed Halcyonoida in distinction to the Actinoida which includes the reef builders—constitutes the center of a valuable industry, and many corals are utilized in various ways. The value of the corals as island makers can readily be seen. The coral polyp is the advance guard of the Florida peninsula, Loggerhead key being the most westerly point. Great reefs can be traced in New York and other states now far inland, showing that these delicate animals from time immemorial have been adding to the solid matter of the globe, the reefs forming the great girders of the continent.

VACATION
By Alfred L. Townsend
A stretch of rapids, shadow flecked;
A fringe of rushes, fresh and green;
A sloping mountain, pine bedecked;
A waste of brush, spread in between;
A breath of breezes softly blown;
A whispering sound of rustling leaves;
A haze the forest fires have thrown;
A mossy rock the water cleaves;
A slender willow river swung;
A circling eddy cool and dark;
Some far off music softly sung,
A floating bit of broken bark.
A shady nook beside the stream,
A dainty hand. A lovelit eye;
'Tis joy to live, 'tis bliss to dream,
'Twould be a pleasure e'en to die.

CAN A CHINAMAN BECOME A CHRISTIAN?

BY REV. FREDERIC J. MASTERS, D. D.

A FEW weeks ago there appeared in the columns of a widely circulated journal on this coast the following statement:

"The Chinese are irredeemably and irretrievably bad and vile, as a rule, and all the efforts to christianize them only make them greater hypocrites than ever. This is no slander, but a grave and solemn truth, and can be verified by the sad experience of men and women on this coast who have labored long and earnestly to convert them. It is utter folly to dream of the Chinese embracing the christian religion, for it is alien to their disposition."

If this is a mistaken view of the results of Chinese missions, it is time that something was said on the side of the truth; but if it is true as alleged, that the effect of christian work among the Chinese is to make that people worse instead of better, then it is time the missionaries, if fools, were convinced of their delusion, or, if knaves, were called to account for their dishonesty, and that the churches withdraw their forces to more promising fields.

That among the Chinese are found some very depraved specimens of humanity, my recent papers to THE CALIFORNIAN will attest. Is that so strange? It would indeed be strange if the Asiatics in our midst, the majority of whom represent the peasant class and many of them the dregs of a heathen population, should be discovered to be saints, or be found among us with habits and character averaging as high as the same class brought up in christian lands. As things look, *our race* cannot set up very high claims to social virtue. No intelligent man who lives in this land of churches and bibles can walk the streets of our cities at night, or read reports of official corruption and rapacity, or the sickening accounts of daily atrocities, social scandals, dueling, debauchery, villainy, and crime, and then turn round to fling pharisaical stones at a Chinaman for vices, habits and customs that are the outgrowth of a heathen environment that has made him what he is. It will be well to bear in mind that when christian missionaries found our ancestors a race of half-naked savages, idolators and pirates, the Chinese had seen over a thousand years of highly civilized life. Remembering, therefore, what christianity has done in civilizing the Anglo Saxon race, it does not become us to gather up our skirts and give John Chinaman a wide sweep as too common and unclean for the gospel. Nor is it right for us whose institutions and habits are the slow product of a thousand years of christian ancestry, to conclude missions a failure because a generation of christian work has not regenerated four hundred millions of people; has not made them better than ourselves; has not already ushered in the "nobler modes of life, sweeter manners, purer laws of the Christ that is to be."

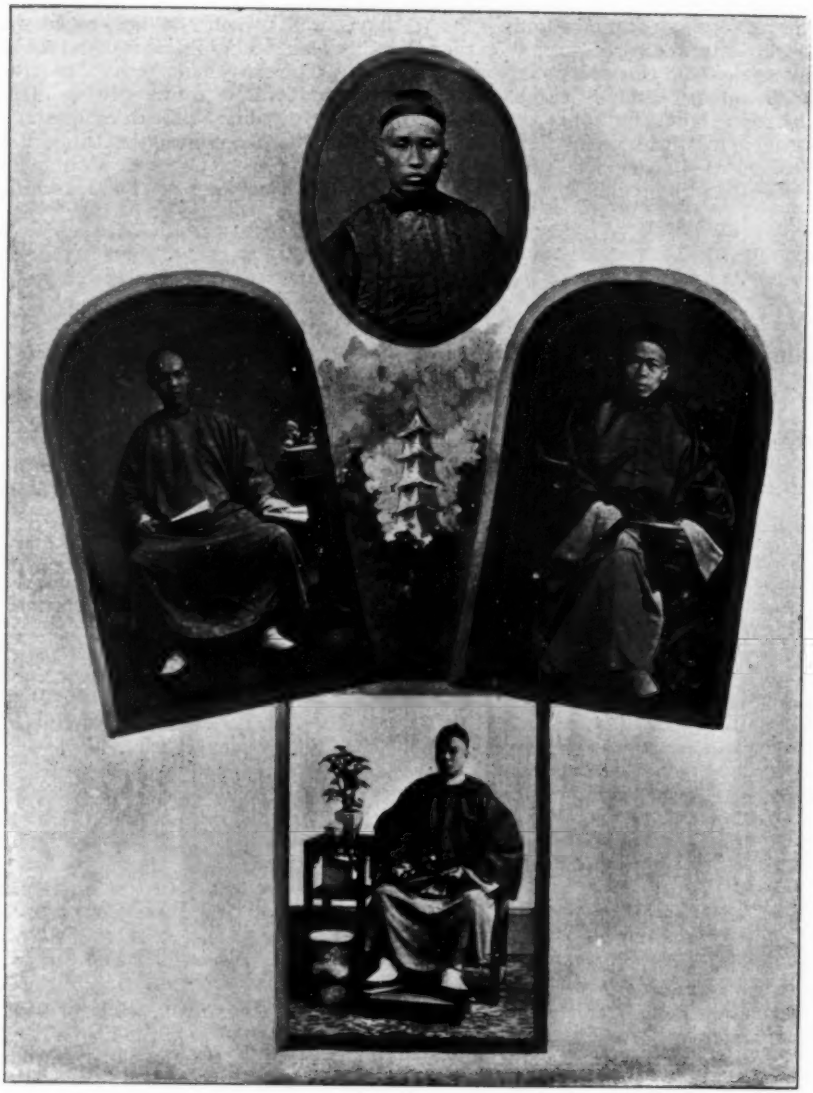
The question whether a Chinaman can be converted is often asked, not with cynical scorn, but in the spirit of sympathetic appreciation of the immense difficulties that confront the missionary in his work.

In China the vastness of the field, the density of the population, the conservatism of the people, the tenacity with which they cling to national customs and traditions, the philosophical and religious systems that for forty centuries have molded Chinese thought and crystallized their habits; the tremendous influence of the clans and

ancestral religion are, it must be admitted, conditions very unfavorable to the propagation of a new faith.

One might expect to find a more favorable field for missionary enterprise among Chinese residing in a christian land, but this is not the case. The little credit a Chinaman gets on this coast for his christian profession; the cold suspicion with which he is often treated, as if he must necessarily be a hypocrite; the anti-Chinese sentiment of the coast, shared even by some ministers of religion; the appalling immorality and godlessness of our cities, which a Chinaman is not slow to detect; the fresh memories of murdered kinsmen, of riots, boycots and savage oppression; and the frequent hoodlum assaults made upon defenceless Chinese, even upon their women and children, as I have seen myself, do not make the white man's religion, morals and social life particularly attractive to the average Chinese mind. In the face of such gigantic difficulties one can excuse the skepticism that underlies the question, "Can a Chinaman become a christian?" The marvel is that any Chinaman will receive christianity from a white man's lips. Much of the popular information about Chinese missions at home and abroad has been gathered from traders, naval officers, and globe trotters, who, in ninety-nine cases out of a hundred have never been inside of a mission church or school and are as competent to give information of the results of

Rev. Chan Hon Fan, Methodist.



Gee Gam, Congregational Mission, S. F.

Rev. Luke Lowe, Victoria, B. C.

Lee Tong Hay, Methodist, S. F.

Rev. Tong Keet Hing, Baptist, S. F.

christian work in China as an average heathen Chinese merchant on Dupont street, or a Chinese sailor would be to estimate the christianity of America, judged by what he sees on Tar Flat or the Barbary Coast, or the number of white people that he sees going to church on Sundays. Travelers in China would not be likely to go to missionaries for information about the tea and silk trade and commerce in general. It is very strange that when these travelers are in search of information about missionary work they avoid the very people who are best informed on the subject, and go to men who know more about clubs than churches and who take more interest in horse-racing than they do in the regeneration of mankind. The same may be said of the majority of visitors to our local Chinatown. Where one visits the missions nine hundred and ninety-nine go slumming. Chinatown guides who are not usually regarded as the burning and shining lights of christianity, and who, it is safe to say, have never seen the inside of a mission church, are taken as infallible authorities upon everything pertaining to missionary work; and it is out of information supplied by them that the observing truth-seeking traveler, writes his newspaper sketches and prepares his speeches. He has gone through China and California and has never seen a single Chinese christian! It reminds one of the East India missionary who stated in a speech a few days ago that during ten years spent in Bengal he had never seen a tiger, a statement which, to ignorant minds would be sufficient to cast discredit upon every Bengal tiger hunter's story ever published. As a rule, men see what they look for.

In China nearly fifty thousand men and women have made an open profession of the christian faith, have given evidence of a change of heart and life, and have been admitted to the churches of the different protestant missions. In addition to this it is estimated there are over a hundred thousand more who are regular attendants at the mission churches. All this is practically the result of only twenty-five years of christian work. On the Pacific Coast during about the same time over two thousand Chinese have been received into our churches after giving proof of the sincerity of their convictions. Many of these have returned to their homes in China; some have gone to colonize missions in the east, while over a thousand remain with us. That some have proved false and brought disgrace upon the cause cannot be denied. Such cases are not unknown in American churches. When a Chinaman goes to the bad everybody hears it. The cases of declension are, after all, very few. Out of eighty new members received into my church during the last three years all but five remain faithful and true. The work is slow, but I am not sure that it is slower than any other department of christian work upon the coast, especially among European foreigners who are not less indifferent to the claims of evangelical religion than are the Chinese.

That many Chinese have been reached and permanently benefitted cannot be seriously denied. To see men who were highbinders becoming peaceable and law-abiding; idolaters becoming intelligent and God-fearing men; gamblers that have been changed into industrious, honest and upright men; opium smokers breaking away from the chains of an enslaving vice; and women once the inmates of the vilest dens of Chinatown, now domestic servants in American homes, or the mothers of christian families training up their children in the paths of religion and virtue, are surely transformations of character that are beyond dispute and are results that no hostile criticism can assail or ignorant ridicule disparage.

It is true that every christian Chinaman does not cut off his queue or adopt American costume. What of that? American residents in China

do not adopt Chinese modes of dress while living in that country and why should the Chinaman adopt ours? As to the queue, it has no more to do with heathenism than George Washington's pigtail or that of our American schoolgirls. It is really a mark of allegiance to his government, the mark of a loyal subject of the Emperor of China, and in view of the act of Congress that denies him the right of naturalization in this country, his retention of his queue and national dress involves a principle that commands my entire respect. Nor does a Chinaman's sincerity hinge upon what place he choses to lay his bones. "Joseph gave commandment concerning his bones," and it is no uncommon thing for natives of the eastern states residing among us to make a similar request before death that their bodies shall repose in some ancestral vault on the eastern slope. Yet I have never heard this urged as evidence of their heathenism. As a rule, however, Chinese christians are content to sleep in the christian burial grounds of California. All such objections as these are mere trifles. American tailor, milliner and barber fashions and social conventionalities are no part of christianity, and it is a good thing for christianity they are not. The tests of christian discipleship are laid down in the New Testament and the real question is: Do these Chinese professing christians conform in heart and life to these tests? There are a number of witnesses ready to be called into court. Dr. B. C. Henry, of Canton, says: "The character of the five thousand christians in Canton will compare favorably with the christians of any land." The late Rev. W. White, who labored amongst the towns to which the Chinese in California belong, wrote a year or two ago to a church paper in the East speaking of "the splendid christian character" of hundreds of these returned emigrants whom he compared to "beacon lights on mountain tops." A similar testimony is borne by Rev. H. V. Noyes, of Canton, who also says "of the thirteen native assistants who have labored in the Sze Yap districts six were converted in California, one in Australia, and one received his first religious impressions from a christian Chinaman while crossing the Pacific."

Lum Foon. Self-supporting Evangelist.

Rev. J. C. Nevin of Los Angeles, says: "After an experience of thirty-two years amongst the Chinese both in their own country and here, having seen them converted; having watched them live the gospel under more trying circumstances than fall to the lot of christians in our own country — having known them out of their slender income contribute liberally to the Lord's cause—having listened to their ofttimes earnest prayers and fervid addresses—having stood by the bedside of the sick and dying—having witnessed the trial and triumph of their faith * * * I can say with the utmost confidence that no greater proof of the power of the gospel to save can be

found amongst any people in the world."

The Rev. Ira M. Condit, for twenty-five years a Presbyterian missionary to the Chinese both in China and California writes: "As a rule I have as much faith in the religion of Chinese christian professors as I have in that of our own people. If they are not sincere then our religion is a sham and a delusion."

A lady in Oakland speaks of her Chinese cook as "the best christian in our family, whose integrity and consistency will stand against that of any white christian."

Rev. J. Endicott Gardner of Victoria, B. C., says: "In point of character consistency, zeal and liberality I consider my Chinese church members are on a level with the average members of any church."

Rev. W. S. Holt of the Presbyterian Mission, Portland, says: "I have been among the Chinese in China and the United States for almost nineteen years and am well qualified to judge. I consider the Chinese christians compare favorably with those of any nation in character and fidelity. They readily respond to the demands of benevolence and their gifts are on an average fully equal to those who have been trained in christian lands."

Rev. W. C. Pond, D. D., writes: "One-third of three hundred and thirty-six members of Bethany church of which I am pastor, are Chinese believers. While I joyfully recognize in the American members of my church a steadfastness and devotion I have nowhere seen excelled, I also testify that according to every test of christian character authorized by the Master our Chinese members are their full equals."

As Secretary of the Congregational Chinese mission, Dr. Pond says: "During the last seventeen years eight hundred Chinamen have been admitted to our churches. It is not claimed that none of them were mistaken or even that none of them were conscious hypocrites—we could not claim that of an equal number of American professors taken at random, but I do affirm that by every practical test of character, by their steadfastness, zeal, honesty, liberality, growing knowledge of the truth and increasing efficiency in teaching the truth to others they give on an average tokens of true conversion as clear as can be found in the christians of any land."

Rev. J. K. McLean, D. D., of Oakland, says he has fifty Chinese members in connection with his church, and they are just as consistent christians as any fifty of his American church members. Rev. Dr. Bovard, presiding elder of the San Francisco district of the M. E. church says: "A close personal acquaintance with many of the Chinese christians in San Francisco for seven years leads me to the conviction that they are truly imbued with the spirit of the gospel. They not only know and accept the doctrines and essentials of christianity, but they give unmistakable evidence of having entered into the power and life of its truths. I have found amongst them such perfect sincerity of heart and transparency of character that could only come from a new heart."

Judge N. G. Curtis of Sacramento whose forensic eloquence has often thrilled our local courts, and whose profession has accustomed him to weigh evidence and read character, is a very valuable witness. Several years ago he had a young Chinaman in his family who became a member of the Presbyterian church. For several years he watched that young man's life very closely. He judged it by the severest New Testament tests. He says he found him devout, upright, honest and true, his spare time being devoted to the study of the Scriptures. The judge's family became much attached to him on account of his singular refinement of character and purity of life. At last he was taken ill. He was nursed with tender care during a lingering sickness borne with christian fortitude. Before he died he expressed a wish that

he might be buried with christian people and that his heathen kinsmen should not be allowed to take his body away. When the missionary came to attend his funeral the judge said: "I have been looking for a model christian life and I have found one in this Chinese lad from across the seas." In Sacramento city cemetery there stands a splendid marble monument that cost over one thousand dollars, erected at the expense of Judge Curtis, bearing the name "Ye Gon Lun," and the words, "He lived and died a christian;" and that costly tomb, the noble testimony engraven there, and the stainless record of that young Chinaman's life are plain, silent, thrilling evidence sufficient to convince the most cynical mind that a Chinaman may become a true christian.

The *steadfastness* of Chinese christians under persecution is a powerful evidence of the genuineness of their conversion. The popular opinion is that a Chinaman professes christianity for mercenary ends and can change his faith as easily as he changes his coat. It is difficult to discover what temporal gain attaches to the christian profession of a man who finds himself cast out of family, clan, guild and employment, cursed as he walks down the street, and counted as the filth and offscouring of the earth. During my nine years' residence in South China, three years of which my mission journeys lay in that part of the province that is the home of the Chinese in America, I have witnessed what terrible persecution these converts have to endure on their return home. I have seen men who, on

Rev. Sia-Sek Ong, M. A., D. D., Foochow.

announcing their christian faith, have been deserted by parents, wife and brethren; others who have meekly borne bonds and stripes and imprisonment because they would not renounce their faith or cease publicly to teach what their fellow-villagers call "the religion of the foreign devils." I knew a man who was baptized in the Methodist mission in San Francisco who invested his hard-earned savings in a lot of ground. When he began to build his house he refused to consult the oracle, would not call in the Taoist priests with their incantations to drive away the evil spirits. An epidemic of smallpox broke out in the village and was supposed to have been occasioned by the omission of these rites. His fellow villagers threatened him with death, but he refused to make peace with the gods. The poor fellow's house was torn down, his property confiscated, and himself beaten till he dropped down in a state of unconsciousness. I have seen these christian men suffer the looting and destruction of their houses because they would not subscribe to the festival of a heathen god. A small contribution of half a dollar would have spared them pain and annoyance, yet these brave men would suffer joyfully the spoiling of their goods rather than compromise principle and violate conscience. Were these men hypocrites? Did these heroic souls join the church for the sake of temporal gain? Nor are these solitary instances. The Rev. Dr. Henry of Canton says: "There is not a christian in Canton that has not been exposed to reproach, calumny, injustice or physical violence on account of his faith."

The London *Times*, that used to sneer at Chinese missions, has lately published a remarkable leading article on the heroism of the native christians of Szchuen during the recent persecutions. It says, with knock-down logic: "If the motives of christian converts in China are wholly mercenary why should it be necessary to persecute them so cruelly in order to drive them from a faith which means nothing to them but a little money?"

Let any caviler at Chinese missions read the heartrending accounts of the recent persecutions in China, published by the foreign secular press in that land, and ask himself whether *his* religion would stand such a test. It is not surprising that some shrink from the trial and quail in the presence of danger and death; but hundreds of them have counted it their glory to suffer for righteousness' sake, have sealed the truth with their blood, and have laid down their lives with the courage of martyrs rather than deny the christian faith. These are men of whom this narrow, sordid age is unworthy, whose unselfish heroism puts much of our modern christianity to shame, and the meanest heathen the sun has ever shone upon is the carping critic who, in the face of these martyrdoms, will maintain that a Chinaman cannot become a christian.

Their *liberality* to the church is another evidence of the sincerity of their profession of the christian religion. Taking into account their scanty means and the large part of their income which is sent home for the support of parents and families in China, their liberality is unsurpassed by any body of christians in the world. The Chinese of the Congregational missions—the largest on this coast—last year contributed six thousand two hundred and ninety dollars to the treasury of the mission.

In the Province of Canton, there is a band of native itinerant evangelists, physicians and colporteurs who are going from village to village preaching the gospel, healing the sick and selling christian books, and the whole expense of this mission is borne by the young Chinamen of the Congregational missions of this coast—by men who, we are told, are "irredeemably bad."

The Presbyterian Mission Chinese are equally liberal. Besides contrib-

uting to the expenses of the work here, they are sending generous assistance to the greater work being done in their native towns. Rev. H. V. Noyes, of Canton, writes that he has received one thousand five hundred dollars from California Chinese to build a new church in Canton, besides three hundred dollars towards a chapel in San Ning.

Rev. Ira Condit writes me: "The Chinese prove their religion by their works. The year before last the Presbyterian Chinese of California placed in the hands of trustees in the City of Canton, three thousand two hundred dollars, to be invested as an endowment fund for the support of the ministers of the church. * * * Last year the contributions of our Chinese christians on this coast amounted to two thousand two hundred and thirty-nine dollars."

The one hundred and twenty-five members of the Methodist Mission Church every year contribute from one thousand five hundred to one thousand eight hundred dollars to the church. They pay their share of all church benevolences, not forgetting the poor, infirm ministers of the conference to whom they give from fifty to seventy dollars every year. Their liberality is shown during the last seven years in gifts to the great Missionary Society that sent them the gospel, amounting to over three thousand five hundred dollars, or about five hundred dollars every year. Not satisfied with this, they have just formed a Missionary Society, like their Congregational brethren, to employ christian workers in their homes, for which purpose they have already raised over one thousand dollars. In the Baptist and Episcopal missions, there is the same spirit of benevolence. There is no space to

Rev. Wong, Presbyterian.

tell in detail of the many churches in China that wholly or in part maintain their pastors and places of worship; of Lo Hoy, the wealthy Methodist of Canton, who uses his fortune to pay the salaries of preachers and extend christian work; of Lum Foon, converted in the Methodist mission in San Francisco, who gave up a good business to become a self-supporting missionary in his native city, erecting chapel schools and residence, and presenting them and himself to the church; or of the Chinese cook, who a few months ago placed in my hands a packet containing one hundred dollars, the first money he had saved since he became a christian and which he desired to be sent to aid mission work in China; of the late Tiong Ah Hok, the rich Foochow Methodist, who gave ten thousand dollars to help found the Anglo-Chinese College, in that city; or of his noble and accomplished wife, the daughter of a Mandarin, who spends her life and fortune in charitable work, and who in a recent tour of the world was distressed to think she could not pay her personal respects to the church that had sent her the gospel because the exclusion laws of this christian nation shut her out. Yet we are asked to believe that Chinamen are utterly and "irredeemably bad," and the christians all hypocrites who have joined the church from mercenary motives!

The devotion of these people to their pastors and teachers is another feature of their character. Such prodigality of gratitude and such constancy of friendship were never seen as in the relation of flock to pastor in China. The Rev. Mr. Walley, who has just returned from China, was at Wuhu during the recent riots, and tells how nobly the native christians stood by him and his wife, and risked their lives in their defense, when all their European friends had fled. I know nothing in history or fiction more thrilling than his account of the way these christian Chinamen faced a raging mob and raging flames to rescue three little English children from a burning mission-house and restored them to the arms of their distracted mother. Ask her if she ever saw a christian Chinaman.

Shall I ever forget that September morning in Canton, eight years ago, when the streets were surging with a desperate mob three thousand strong, yelling, "Down with the foreign devils," when fourteen fine mansions of the foreign merchants were looted and burnt to the ground, the residents only barely succeeding in saving their lives? Deserted by fellow-countrymen, cut off from succor and with death staring us in the face, the only people who befriended me and my family during the long hours of that terrible day were christian Chinamen. It was a member of my church who smuggled us into his house and kept us concealed in a back room. It was a band of christian Chinamen of my church who forced their way through the mob, at the peril of their lives, to make sure of our safety, and who, within sound of the howls of the mob, the roar of the flames and the crack of musketry, stood round us in our defense, vowing that no harm should come to their dear pastor and his family as long as their lives held out. If these men were not christians then that word has no meaning to me.

Of the Chinese christian ministry much might be said in illustration of the capacity of a Chinaman to apprehend and intelligently expound the highest truths of the christian religion. Many of them are cultured gentlemen who have become christian ministers after throwing up more lucrative situations. The preaching of many of them would do credit to any pulpit of christendom. Their sermons, interspersed with apt illustrations, are packed with thought, profoundly exegetical and forcibly logical. Some are orators, others theologians, some practical, while

others bubble over with wit and humor. Blameless in their integrity, fearless in their denunciation of error, and suffering day by day contumely and insult, they seem to have come fresh from the apostolic age. There is the Rev. Kwan Loy, who preached in the market place of Kau Kong, knowing that offers of a reward of five hundred dollars for his head had been posted all over the town. There is Dr. Sia Sek Ong, a graduate of the Imperial University, who threw up a lucrative situation to become a Methodist preacher, itinerating from village to village and preaching the gospel, sometimes upon less than three dollars a month. The author of the prize tract, "Who is Jesus?" a successful pastor and presiding elder and four years ago delegate to the last Methodist General Conference, Dr. Sek Ong, is worthy a place in the highest rank of the Methodist ministry. Among Chinese preachers in California the most brilliant, perhaps, is the Rev. Chan Hon Fan, a man of liberal ideas, a good English scholar and a preacher of singular eloquence and power. No braver thing was ever done in San Francisco than his open attack upon Highbinderism while preaching on the open street of Chinatown a few months ago. On the very spot that a few days before had been reddened with the blood of murder, and under the rooms of a highbinder society the crowd stood for an hour and listened to this brave preacher openly exposing and denouncing the murderous secret societies that had disgraced their nation and terrorized Chinatown. Another noted preacher is the Rev. Tong Keet Hing of the Baptist mission, perhaps the best Biblical scholar and closest thinker in the Chinese church. He has been called the Chinese Spurgeon for his ready wit, his luminous presentation of truth, and his subtle and searching application. The Rev. Mr. Wong of the Presbyterian mission is a good, practical preacher, whose clear exposition and chaste diction make him a model for younger men. There is Rev. Ng Poon Chiu, who is a good English scholar, reads his Hebrew Bible and Greek Testament and is about to be ordained to the ministry in the Presbyterian church. Mention must be made, too, of Gee Gam, one of the oldest and most respected Chinese christians in California, for twenty years court interpreter at Oakland, who spends his spare time in evangelistic work in connection with the Congregational mission. There is, also, Lee Tong Hay, the Methodist local preacher, whose sermons and addresses, in English and Chinese, are so full of pith and humor that some have called him the Chinese Sam Jones. Many other instances might be given, but these will suffice to show that Chinamen can not only become sincere Christian believers, but also preachers of the gospel as intelligent, faithful, earnest and consecrated as can be found in the pulpits of our own churches.

With these results it surely cannot be seriously maintained that Christian missions among the Chinese are a failure. Year after year these young men of "Far Cathay," who have been under our influence and instruction and have been brought in contact with the religion, science and civilization of the West, are returning to their native land, bearing with them the light of a new age, the principles of free institutions and the seeds of imperishable truth that will be planted in their far-off homes and become a power for good long after our work is done and our name forgotten.

JIMMY THE GUIDE.

BY WALTER B. COOKE.

I GO slumming occasionally, at least once a year, and sometimes twice, at times with some chosen friend, but preferably alone. It is such a change from the beaten path of every-day life; so different from the pleasant side of the world that one observes at home, in fashionable salons, or at balls and cotillons. Therein lies its charm, transitory though it be. One night recently, after a respite of perhaps a year, I donned an old suit of clothes and other accessories to match it, put a number of halves, quarters and dimes in my pockets for ready change, and proceeded carelessly toward Barbary Coast, the fountain head of vice and the haunt of criminals, and the most debased of our male and female population.

The Colorado, El Dorado, Arizona and Scandinavian halls were all inspected, presenting to my eyes no change in a year. The same faces were seen before and behind the bars, the same waiter girls "chased the duck" with agile feet, and their eyes were ever on the alert for a "sleeper," or an error in change, while the same motley crew of sailors, soldiers and others were being fleeced as usual. It was interesting, however, to a certain degree, especially in the Scandinavian, where two female "beer jerkers" were severely pummeling a friendless Italian because he, in his mild, drunken stupor, objected to paying twice for the same drinks.

I left there soon and crossed over to the Marble Hall, a large underground dive, well lighted, and crowded with patrons. Waiter girls ran to and fro with drinks, and as the asthmatic orchestra played "Mary Green," each sought a partner and danced a species of waltz, that would create a sensation if introduced at the meetings of the Friday Night Club. I ordered a pony of beer and sat quietly watching and studying the people there, endeavoring in my mind to form some idea of their vocation from their appearance. One man, quite near to me, attracted my attention particularly, as there was something reminiscent about his face and figure. The more I studied him the more my brain sought some avenue through which I could recognize him, until at length my thoughts traveled back through the vista of time twelve years, and the following narrative formed my mental photograph:

* * * * * * * *

In the early spring of 1880 a friend and myself resolved to make a trip to Yosemite Valley. Every one tried to dissuade us, but he insisted upon going, as he was from the East, and was obliged to return to his home soon. He was thoroughly determined to see the valley then or never; so we started. Merced was reached by rail and Mariposa furnished us shelter the second night, after a hard stage ride of twelve hours over rough roads. The following morning we secured saddle horses at Mariposa, and a guide in the form of a diminutive colored boy, or rather a man, as he was twenty-two years of age. His name was Mose, at least that was all he claimed ownership to. He was almost a prototype of the once famous "Little Mack," who was so well known on the minstrel stage years ago, and his comical appearance and make-up put us in good humor that cold, crisp morning.

We were assured that he knew every foot of the mountain country, and was honest and reliable. The express agent gave us this assurance, and coupled it with the information that a lady and gentleman had pre-

ceded us one day on the road to the valley. We struck out over the hills and mountains and reached Hite's Cove about four o'clock in the afternoon, feeling quite tired. To our surprise the lady and gentleman mentioned by the Express agent were at the hotel, and their detention was explained by the inn-keeper who said that the lady was too tired to travel; so with their guide they had taken a day's rest.

The guide was a strange contrast to our little Mose. He was over six feet in height, somewhat gaunt as to frame, though evidently powerful, and his long, matted, reddish-hued beard rested far down on his breast. His eyes were the peculiar feature of his physiognomy. They were sunken deep in the sockets and tufted almost all around by his beard and his heavy eyebrows that connected over the bridge of the nose. They were steel blue in color, but were as restless as a squirrel in a rotary cage. To me he was repulsive, and my companion shared my dislike.

At dinner we were introduced to the two travelers, Mr. and Mrs. Carew, of Kansas City, they styled themselves, and they seemed to be quite pleasant people. Although in middle life, and apparently married many years, they seemed, at times, almost as "kittenish" as a newly wedded couple. We all agreed to start together for the valley, in the morning, and they gave every evidence of delight in having our company. They retired early, but I and my traveling companion, Jack Gilman, an old college chum, went into the bar-room and played billiards. Soon the room became filled with miners, for Hite's Cove was a great mining camp then, and may be now, for all I know, and its gold sustained a high assay. These miners were not the class of men that one would meet at his club, and although they partially resented our intrusion, they gave but little outward evidence of it. Still we knew enough to stop playing billiards in a hurry, and took positions at the end of the long bar, adjacent to the doorway, leading to the hall.

A few minutes later Carew's guide entered, and as he did so, he was greeted with a shout and a chorus of blasphemous remarks from rough miners, who instantly seized him, bore him to his knees on the floor and then covering him with their revolvers, made him pray. He did pray and he prayed well and long. Then these demons made him sing hymns, and as he sang they formed a circle around and danced like evil spirits in high carnival. Each hymn or song was followed by a drink, and they came thick and fast. This was all very exciting and interesting to us "tenderfeet," as we had been dubbed, until some one threw a chair at the mirror behind the bar. Then thirty revolvers blazed out an anthem toward the ceiling and we disappeared through the doorway in great haste. The fusillade continued, and we sought fresh air at the rear of the house. At last the shooting ceased, and climbing carefully to a back window we saw that the bar-room was a wreck. Every mirror, bottle, glass and chair was broken and the miners were on the floor in a state of exhaustion, with the guide still kneeling near the stove. We had no desire to return to the scene of carnage; so we sought our rooms and were soon asleep. We arose at six o'clock, and before breakfast, had an explanation of the previous night's scene from the barkeeper.

"You see," said he, "it was all on account of Jimmy the guide. He's one of them religious cranks called Seven Day Adventurists, and all the boys know it; so when he comes up here they just have some fun with him. They never hurt him nor any one else and always pays well for the damage done to the bar. I always tries to keep Jimmy away, but sometimes he can't help coming."

We took the explanation, and mutually agreed that we did not

admire the California miner's idea of fun. Jimmy turned up early, looking no worse than ever. Mose was on hand with his widely expansive, grinning countenance, and Mr. and Mrs. Carew were ready for the day's trip. Breakfast was finished quickly and our party of six were soon in the saddle. Our journey commenced by making an ascent of the almost perpendicular trail up the mountain side at the rear of the hotel, and it was a task for both horses and riders. Jimmy the guide led the way, with our little black man bringing up the rear. They exchanged very few remarks, and Jimmy always had precedence in everything. At last we reached the summit and soon afterward had a view of mountain scenery that has hardly a counterpart in America. Fierce-looking, rugged crags arose apparently to the sky from the pretty valley beneath us, and the immense layers of granite were tapestried in fanciful designs with fleecy masses of snow, cold, glistening relics of the winter that the sun was fast melting.

The scenery was that of Switzerland, and differed from that of the Yosemite Valley beyond it by being thoroughly picturesque without any tinge of grandeur or sublimity. Down we went over the mountain trail, our horses carefully feeling the way, until we reached the precipitous side of the mighty chasm through which the Merced River madly flows over the immense fallen bowlders of granite, seething and foaming in its wild course. There the trail ended, and across the chasm, eighty feet wide at that point, was a rudely constructed suspension bridge, wrought of boughs of trees woven together into a comparatively strong framework. It looked like tempting Providence to cross it, but both of our guides said we must as there was no other way to reach the other side and the Yosemite Valley, some fourteen miles away.

Jimmy told Mose to cross first alone, on foot, to test the strength of the bridge. He did so and returned in safety. Then after muffling the feet of our horses in gunny sacks to prevent them from slipping on the smooth surface of the bridge, Mose led his horse over the swaying structure, then Jack's, and afterward mine. He was about to take the other horses over, when Jimmy said to him, "Never mind them, I'll fix them myself." Then turning to Jack and myself, he said, "Now you two can go over, one at a time, and we will cross afterward."

I will pledge my word that all the hoarded gold of the Indies could not tempt me to cross that bridge again. Imagine that frail structure of boughs swinging to and fro with the wind that swept through the cañon, with only one narrow rail at either side as a support for the hands, while below me, a hundred feet, was the river, dashing along over the rocks, every one of which seemed to me to be a death's head staring me in the face. However, Mose, Jack and myself reached the other side all right, and as we mounted our horses, we noticed that Mr. and Mrs. Carew and Jimmy were having quite a serious conversation, judging from the expressions of their faces. Finally Mr. and Mrs. Carew stepped on the bridge together. She was ahead and he supported her as best he could. When they were midway over I noticed that Jimmy was on the ground near the big rocks at the end of the bridge, but I could not see what he was doing.

A moment later there was a crash, and the bridge was carried from its moorings on the other side of the chasm and fell into the abyss, carrying the two unfortunates with it. Piercing shrieks rent the air for a moment, and then were silenced by the ceaseless roar of the river as it thundered along. We were all spellbound by the awful catastrophe, but soon recovered, and, dismounting, looked over the brink of the precipice for the bodies. There they were, silent in death, being carried along by the flood, further, further away from

us until soon they were beyond our vision. What could we do? It was impossible to return the way we came, as the other end of the bridge was dangling below us on the rocks, our end still being held by the ropes. Jimmy was shouting and making frantic signals to us, but we could not understand him or hear him, as the rushing waters drowned his voice. So we finally turned to our guide for information. As we looked inquiringly at him he said to me:

"Boss, I always knowed dat bridge warn't safe nohow."

"But that isn't the thing," I said. "What are we to do?"

"Can't do nuffin' now, Boss, 'cept go to de valley," he answered.

This we did over an Indian trail for miles, leaving Jimmy to make his way back to Mariposa as best he could. After the experience we had, our trip was not a pleasant one, especially as most of it was on a narrow trail that was but a shelf in mid air, with a thousand feet of granite towering precipitously above us and a thousand feet more of the same below, with the Merced at the bottom. Upon arriving in the Yosemite Valley, we put up at Liedig's hotel and stayed there two days. It was impossible to make the ascent of any of the trails then, owing to the ice and snow that covered them. We returned to Mariposa by way of Wawona, suffering much in a snowstorm that struck us at Inspiration Point. At Mariposa, we told our story to the authorities. The sheriff had heard of it from Jimmy, the guide, who brought the horses back safely, and then suddenly disappeared. We returned to San Francisco by stage and rail, and soon afterward Jack went East. I have never seen him since nor did I ever hear the finale of the Carew episode.

This story, in brief, was what flashed through my mind as I sat in that dive and gazed at the stranger at the next table. Suddenly he turned in his chair, and, getting a full view of his face, I saw at once that he was Jimmy the guide. I immediately took a seat at his table and, tapping him on the arm, said to him:

"Hello, Jimmy, have you been up at Mariposa or Hite's Cove lately?"

He turned quickly and said: "Stranger, I reckon you've made a mistake."

"Oh, no, I haven't," I answered. "You are Jimmy, the guide, who was with Mr. and Mrs. Carew, in April, 1880, who went from Mariposa to Hite's Cove, and then were killed the following day by the falling of the suspension bridge over the Merced river. I know you."

"Oh, yes, stranger, I reckon I reckerlect you now. Yes, yes."

Then he mused for a moment and said: "I never expected to see you again."

"No, nor did I expect to see you. Here, waiter, two beers. Oh, you'll take whisky. Well, make it a beer and a whisky straight."

This interruption for refreshments was followed by a few remarks about my trip to the Yosemite Valley; then we had our drinks, and I asked him how it happened that the bridge broke down.

He turned to me and his eyes twinkled devilishly as he said:

"That woman used to be my wife, and she ran away with that man ten years before I met them in Mariposy. They didn't know me, stranger, on account of my beard, and I wasn't as pretty then as I used to be. I knew them, though, and that's how that bridge broke down. Look here! stranger," he then said, quickly, "I reckon I'm talking too much and I'm going out. Perhaps it'll be best for your health if you sit just where you are for half an hour and keep your mouth shut. If you do move, there'll be another bridge broken somewhere."

He vanished from sight and I held that chair down for an hour. Then I went home.

RANCHING FOR FEATHERS.

BY M. C. FREDERICK.

IN pageants of victory or gladness, in the mournful funeral cortege, in coronets of princes, in the ball room, on the street, always and everywhere, the beautiful, soft, bending ostrich plume holds proud dominion.

The ancient Egyptians, with true artistic discernments, chose it as the sacred emblem of justice and truth, and set it upon the head of their Goddess of Truth, because the vanes on either side of the shaft are so exactly balanced, while in other feathers the quill divides the web unequally.

Henry of Navarre, "The Plumed Knight," said, as he fastened on his helmet, ready for the battle of Ivry, which practically secured for him the throne of France: "My friends, yonder is the enemy, here is your king, and God is on our side. If you lose your standards, rally round my white plume; you will always find it in the path of honor and victory."

It is rarely suspected how much of Cupid's power is due to the witchery of an exquisite feather fan that lends its own beauty to the face it partly conceals, so charmingly reveals, when roguish eyes peep coquettishly from behind its rich loveliness; or to the long, elegant plume, curling lovingly over the brim of a Gainsborough that makes the plain face under it sweet and attractive.

For grace and beauty no ornament can be compared with ostrich feathers, and present fashions revel in them in all forms and for all uses. They appear in bands and edgings in odd and beautiful varieties on evening and dinner gowns of the costliest materials. Sometimes it is a row of the tiniest tips attached to a feather band, or, perhaps, a double row, or it may be a trio, falling over the band, which supports them, and forming most dainty garnitures.

Tall, Prince of Wales plumes, towering high above a flat crown are said to have a dignified effect. However that may be, one cannot help wondering what dire insult has caused the pretty, clinging things to stiffen their spines and stand erect in that haughty, defiant fashion. Or is it only that they are puffed up with pride and vanity at their high degree that they rise up in that saucy, look-at-me way?

Happily, the bloody reign of stuffed birds for hat trimming is over, and it is hoped that anything so unladylike, inartistic, and altogether revolting will never again come into vogue. Yet formerly it was only through the death of the ostrich that its rich plumage could be secured, and like the buffalo it would have been exterminated, had not a successful effort been made to domesticate it. This was first done in 1865, though it did not become general until about 1880, when it became a sort of mania, and two thousand five hundred dollars was no uncommon price for a pair of breeders, and even as high as five thousand dollars a pair was received, while eggs sometimes sold at fifty dollars each.

The great success of those engaged in the business in Africa prior to 1882 led to the introduction of that industry into Southern California, where the conditions are very similar.

From a troop of two hundred ostriches that were shipped to South America, which is well adapted to their requirements, twenty-four were sent by steamer to New York, and then by rail to San Francisco, where they were on exhibition for three months at Woodward's Gardens.

A company was formed and a

"farm" was established near Anaheim in Los Angeles County. It is now known as the Fullerton Farm, and the present owners are demonstrating that ostrich growing can be made a success in California.

The same year that these birds arrived (1882) the American Ostrich Company was incorporated under the laws of Maine, with C. F. A. Johnson as president. Their operations were conducted on entirely different principles. Mr. Johnson's son, who was chosen manager, went to Africa, where he remained nearly a year, thoroughly familiarizing himself with all the details of the business. Returning with twenty-one birds, Florida, some parts of Texas, and the vicinity of New Orleans were examined with a view of locating, but it was finally decided that Southern California was the only suitable place, and they were brought to the San Luis Rey Valley in San Diego County and located at Fallbrook. Mr. Johnson has given them his personal supervision and is well satisfied with his success.

A Three-Year-Old.

In 1886, Dr. Sketchley, with the aid of English capital, imported thirty-two birds and opened a farm near Los Angeles, that resulted disastrously. The birds were purchased by Mr. Perry, who now carries on the business successfully at Santa Monica.

In 1887, Mr. Edwin Cawston brought a troop of forty-two birds from Africa, and after keeping them for a time in Los Angeles, established them at Norwalk where he has had satisfactory results.

When it was demonstrated that the birds readily adapted themselves to other countries, the Cape Colony Government, seeing their business seriously threatened by competition, imposed an export duty in 1884 of five hundred dollars on each ostrich and twenty-five dollars on each egg, though Mr. Cawston avoided this great additional expense by purchasing, at an average of seventy-five dollars each, from farms near Natal, and shipping from that point.

From these four importations originated all the ostriches now in this country.

Owing to the hardships of transportation, some of the birds died after their arrival, and there were losses from coyotes, barbed-wire fences and various accidents, so the original number was considerably reduced. Those that remained did not recover from the journey and become acclimated for some time, and it was many months before any little ones were hatched. As it requires four or five years for the young birds to mature, it will be seen that the increase has, necessarily, been slow. In addition to this there was great loss from the incubators. The eggs being so large, incubators had to be manufactured expressly for them, and it was a long time before a satisfactory one was secured.

Both Mr. Johnson and Mr. Cawston have sold birds that were shipped to Honolulu, where they have thriven; and four years ago Mr. Cawston sold some to Mr. Harbert, of Phœnix, Arizona, and these, too, have done well and now number thirty birds. Mr. Johnson also sold half a dozen that were taken to Colorado and are on exhibition near Denver. All the others, numbering one hundred and fifty-eight, are in Southern California, and are distributed as follows: Fallbrook, including its exhibits at Coronado and Riverside, one hundred and thirty; Fullerton, one hundred and ten; Norwalk, sixty-one; Santa Monica, thirty-six; Carpenteria, fourteen, and Los Angeles, seven.

Before the business had become well established in California, fashion decreed that the beautiful plumes, which could at last be had at no cost of life, should give place to the bodies of dead birds, and again the cruel carnage began. Ostrich feathers dropped in price fifty to seventy-five per cent., and in Africa the best pair of breeders were said to be worth not more than sixty dollars. But a fashion so barbarous could not long obtain, and plumes gradually came into use again, and are now as popular as ever. There are, at present, two hundred thousand ostriches on farms in Cape Colony, where feather producing is one of the leading industries, and from Port Elizabeth alone are shipped five million dollars' worth annually—one-half of which comes to the United States.

Some of the stories circulated by ambitious journalists in regard to ostriches and the profits in feathers, are somewhat startling. One familiar with the bird could hardly repress a smile upon being informed with the utmost gravity that the most valuable plumes hang in a delicate fringe all around its body. In the same newspaper article it is stated that during the second year of his existence a male bird furnished two hundred and fifty thousand dollars' worth of first quality plumes and about a hundred and fifty thousand dollars' worth of second grade—all the numerals being carefully spelled out, doubtless to avoid mistakes which might occur by the addition of a cipher more or less.

A writer in one of the leading magazines of recent date places the value of a single plucking at the modest sum of five hundred dollars. When it is considered that only the wing and tail feathers are of value, even that amount is seen to be rather inflated.

The amount of feathers from one bird at a single plucking is variously estimated by the different California growers at from half a pound to one and a half pounds, and as each farm markets its crop differently, there is also variation in the prices received. An African paper gives market quotations for the latter part of January at fifteen to thirty-five pounds for prime whites, extra lots, and all the way down through first, second and third whites, and a long list of other qualities, numbering twenty-two in all; to "young birds (spadowas) one pound eight shillings, to two pounds ten shillings." Since then there has been an advance, and the highest price paid is two hundred and ten dollars a pound. In California fifty dollars per year is considered a fair estimate of the income from each bird.

At Santa Monica the feathers are manufactured by an employé, and sold on the grounds, many of them going to tourists who are anxious to secure the pretty souvenirs from birds they have seen. The best raw plumes are worth one dollar and a half and after being made up sell for six dollars each.

The Fallbrook Company send their product to New York, where they are made up in a variety of ways, aigrettes, pompons, collarettes, boas, etc., in addition to the plumes and tips, and returned to them, where they are principally sold at their Coronado exhibit. Their plumes retail at from one dollar to ten dollars each. The remainder of the California product is purchased by San Francisco and New York wholesale dealers.

The ostriches are first plucked when about nine months of age, and about every nine months thereafter, though the first plucking is of little value and the second not much better.

At the proper time several men enter the corral and gradually close in on one, as quietly as possible, for an ostrich's "heart is always in his mouth," and when frightened he is liable to do himself injury. He is grasped by each wing and a long bag or "stocking" is quickly drawn over his head, as when blindfolded he becomes comparatively manageable. He is then hustled like a resisting criminal into a strong plucking box or V-shaped corral, barely large enough to admit him, in which he cannot possibly kick or turn round. The twenty-four long plumes are clipped from each wing (those of the males being white, females gray) and the smaller feathers are removed with a quick jerk that must make his eyes water, for if allowed to become perfectly ripe the quality is impaired.

After the lapse of some weeks the stubs of the plumes that were left in the wings become dried up and are easily removed with pincers. A single bird rarely furnishes more than a dozen plumes of very best quality at a plucking, as they are liable to become worn or otherwise damaged.

Ostriches mate when four or five years old and thereafter evince great conjugal devotion. The cock assists at incubation, sitting two-thirds of the time, and if his spouse is negligent he drives her to the nest.

Ostrich Trying to Kick the Picker.

Sixty or perhaps more eggs are laid in a season if the pair are not permitted to sit, and incubators are in general use. There is a wide difference in the success of raising chicks at the different farms, just as some people are more successful than others in raising poultry. However, at least ten chicks should be raised from a pair in a season.

The young birds, being tender and liable to colds, require great care, but

after a few weeks they become hardy and run about caring for themselves like barnyard fowls, and in California the grown birds have proved to be very healthy and remarkably free from ailments, the native stock being hardier and stronger than the imported.

Their food consists of corn, alfalfa, the native grasses, vegetables and green feed of any kind. At one time, when feed was scarce at the Fullerton farm they were fed chopped prickley pear that had first been scorched to remove the thorns, and in Africa this is a common food. An ostrich is not at all fastidious in his tastes and makes a good scavenger, greedily devouring almost anything that comes in his way. It is highly important that they be well supplied with bones and gravel. A large amount of food is gobbled up and then the head raised when it is plainly seen passing in a spiral direction, down the snake-like neck so long and flexile that the head may be turned completely around.

The variety of hardware with which he stores his interior is something amazing. Any bright article is appropriated with avidity, a silver dollar being relished quite as much as a grain of corn, while a cake of soap or a gimlet would be regarded as a dainty dessert. One of the birds at Santa Monica is the happy possessor of a gold locket stolen from a too trustful bystander, and a lady who made a study of them in Africa relates how a lighted pipe was snatched from the mouth of an Englishman and hastily swallowed before its designs could be frustrated.

Inquisitiveness is a prominent trait of the ostrich character and he always comes waltzing along with a springy step to see what is going on when anything new attracts his attention. When a visitor enters his domain he approaches as closely as his enclosure will permit, and peers about in a most curious manner, as though he and not the new-comer had paid twenty-five cents admittance and he was determined to get his money's worth.

His stupidity is proverbial and is a constant menace to life or limb. A California owner has seen one put his flat, brainless little head over the fence and back again beneath the board, half encircling it with his neck and then becoming frightened pull as if he were entangled. Being in a chronic state of alarm, he is always on the alert for danger, and usually succeeds in creating plenty of it in the above silly fashion.

The birds sometimes break from one corral into another, and when pursued they "lift themselves on high and scorn the horse and his rider." "I have seen them," said an attendant, "jump a fence five feet high, and on another occasion one went through a fence consisting of three bars of one-by-four pine, with such force as to shatter the boards, and continued in his mad flight as though he had met no obstruction."

Their peculiar habit of waltzing is worthy of note. It is usually done in the morning, when the sun comes up brightly, and they dance like a Dervish, round and round, at such a rate that sometimes it ends in a broken leg. Whether this is due to a twist the leg gets in crossing, or a sad tendency of the bird to become giddy and tumble, with the above result, is a matter of opinion. Nevertheless it is said that in Africa waltzing costs the owners eight to ten per cent per annum, for if an ostrich breaks its leg it is almost certain to not recover. If any casualties have occurred among the California birds on that account, they have not been reported.

At Santa Monica an effort has been made to ride them, but there seemed to be no possibility of guiding them, and the project was abandoned.

If the gaunt, ill proportioned creature, which is scarcely a bird, nor yet a beast, is thought by many to be the embodiment of ugliness, he is certainly pretty enough in his baby days, with his large mild eyes and velvety

neck, so beautifully striped, and his innocent little face that looks up at you in trustful wonderment. The body is plump and shapely, and he waddles about on his two-toed, swollen feet in a way that frequently ends in a comical sprawl on his back and a heroic struggle to gain his footing again, all the while uttering a not unmusical sound. But he soon becomes angular, doffs his baby clothes, loses his voice, grows bald-headed and untidy-looking, lengthens his neck and legs a few feet, and the only beauty left him is his soft, pretty eyes. When in full plumage, he sometimes presents a fine appearance, yet his feathers are likely to be sun-faded and soiled, and his beautiful plumes often have a draggled and shabby look quite unlike the lovely airy things we see in the milliner's windows.

During the mating season the male is savage and aggressive, and frequently gives three deep roars—two short and the last one prolonged—so like the roar of the lion as often to be mistaken by lion hunters in Africa, the only difference being that an ostrich near by sounds like a lion in the distance. As an English lady observes, he does not show proper respect for his master, but runs at him, hissing viciously, whenever opportunity offers, and is as wicked as he knows how to be. The attendant must arm himself with a long stick, usually forked at the end, with which he wards him off by placing it against the neck of his irate enemy and keeping him at a safe distance. Should one assail a person not familiar with them, the safest thing to do, so says an experienced attendant, is to lie flat on the ground, as he cannot kick lower than three feet, and kicking is his only method of warfare. When being driven on horseback, he sometimes attacks both horse and rider, and the skirmish is sufficiently exciting while it lasts, but rarely results seriously.

The female is destitute of voice, and calls her chicks, when she is permitted to superintend their bringing up, by a rattling and a rustling of the wings.

Chicks.

Of course the all-important question in regard to the ostrich business in California is, "Will it pay?" and the several gentlemen engaged in that vocation reply as follows:

"The California product of feathers is considered by experts, including the New York manufacturers, to be very superior. They are finer than any imported, which is quite conclusive as to adaptation of climate, soil, etc., to their production. The industry seems now to be well established and the promise of success flattering.

Mr. Johnson, Sr., of the Fallbrook Farm: "Ostrich farming for feathers will pay if properly carried on, and in the most suitable localities will pay well."

Mr. Hodgson, Santa Monica: "There is no reason why ostrich farming should not become general in Southern California and also in Arizona.

especially as alfalfa grows so luxuriantly and is so cheaply raised. There are no more intricacies in the business than in keeping poultry. Nearly every farmer in Cape Colony has his quota of birds, and the farmers there are certainly not more advanced than they are here. We have no difficulties to meet here. All we need is a feather sale at stated periods, as in Africa, that buyers attend and buy parcels to suit them. When such a market is established I think investors will more readily engage in the new industry."

Mr. Atherton, Fullerton: "Ostrich farming is bound to become general in California because it is a very paying industry. It is being learned that any one may raise them that is so inclined. Should I be just wishing to start an enterprise in California, there is nothing, I think, gives greater chance of success and profit than an ostrich farm. Some of the California birds are now mature and are magnificent specimens. There is an import duty of twenty-five per cent on feathers coming into the United States, which is a profit to us here compared with the farmers in Africa."

Mr. Cawston, of Norwalk: "Although the arid lands of California and Arizona are suitable for ostrich farming, as it is done in Africa, I do not think they will be so utilized for many years, if at all, as so much better care can be given them by artificial feeding. It is for this reason that the California feathers are particularly fine, just as our domestic cattle are superior to those of the vast herds that roam over the plains finding their food as best they may. One or two men can care for a hundred birds. Of course, locality and proximity to food will vary the expense of keeping. Mr. Johnson estimates the expeuse for food alone of those at Fallbrook to be not more than six dollars each per year."

Mr. Cawston has twenty acres of alfalfa and ten acres of young fruit trees, between the rows of which he raises sugar beets—a choice article of ostrich diet—and thinks he could keep a hundred birds on that amount of land. He says: "I can keep eight ostriches to one cow, and as the profits from each are about the same (estimating the income from a cow to be fifty dollars), you can readily see how much more profitable the former is than the latter. Then there is the additional sale of egg shells for which I receive fifteen dollars per dozen."

Fencing is necessary—wire or board and wire being used—and is an important item in the expenses.

About the time of the introduction of ostriches in California, a few young ones were taken to Florida where they all died within a year, the climate, soil and feed proving alike unfavorable.

The French government has several ostrich farms in Algiers. General Gordon, of Khartoum fame, was the first to establish a farm in the Soudan, and several are being successfully conducted near Cairo at the present time, the North African birds being finer than those of the South. In South America the industry is also becoming prominent.

London has six auction sales of feathers annually, at each of which are sold from twenty thousand to thirty thousand pounds of feathers. Prices range from seventy-five cents per pound for those from chicks, to one hundred and fifty dollars per pound for prime whites—the proportion of cheap feathers bringing the average down to about fifteen dollars per pound.

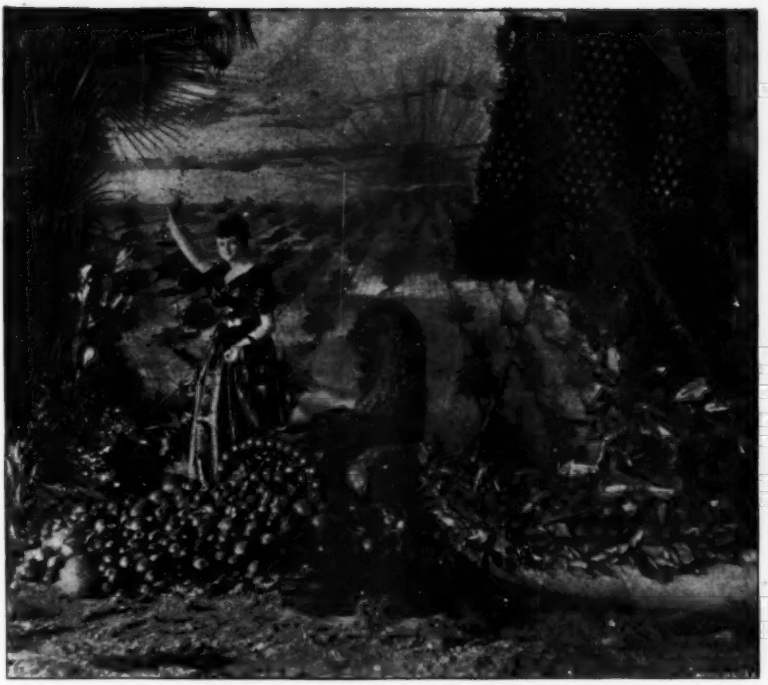
ENGLISH SLUMBER SONG.

BY JEAN LA RUE BURNETT.

Oh, wilt thou close thy violet een,
My tiny dimpled girlie?
And wilt thou be my fairy queen
And droop thy head so curly?
Then thou shalt sail on a golden sea
In a silver shallop, sweet, with me,
Which thy angel sisters bring to thee,
Nid-nod-nee!
So cuddle close to mother's breast,
My lovely lily lady,
And we will sail the billow's crest
To find an island shady
Where thou shalt ride on a starling's wing,
Or soft on a snowy thistle swing,
And list to the songs the peris sing,
Nid-nod-nee!

Now softly shut each silken lid,
My dainty little snowball,
And, darling, do as thou art bid,
I hear the fire-fly's night call!
For see, he has lit his torch in glee
To guide thee on o'er the amber sea
Where the elfin babies wait for thee,
Nid-nod-nee!
With cobweb strands of purple hue,
My turtle dove, my fairy!
We'll hitch the beetles two by two
And speed a wing so airy;
We'll steal away with the cricket's horn,
We'll tickle the bat with the rose's thorn,
And ne'er return till the break of morn
Nid-nod-nee!

So, sweetly, sweetly, take thy rest,
My bonnie one, love-lassie!
With dreams of joy thy sleep is blessed
And weary cares shall pass thee!
Oh, thou shalt dance with the moonbeams white
And sport with the misty gnomes of night
Till the stars laugh loud in wild delight,
Nid-nod-nee!
A cooing pigeon by thy side,
My pretty, drowsy dearie,
Will take thee for his tiny bride,
So slumber on—nor fear thee!
For he'll bring thee sweet nepenthe's bloom
And fan thy cheek with a lilac's plume
Till thy blue een steal the faint perfume,
Nid-nod-nee!



NEW LOS ANGELES.

BY J. R. HENDERSON.

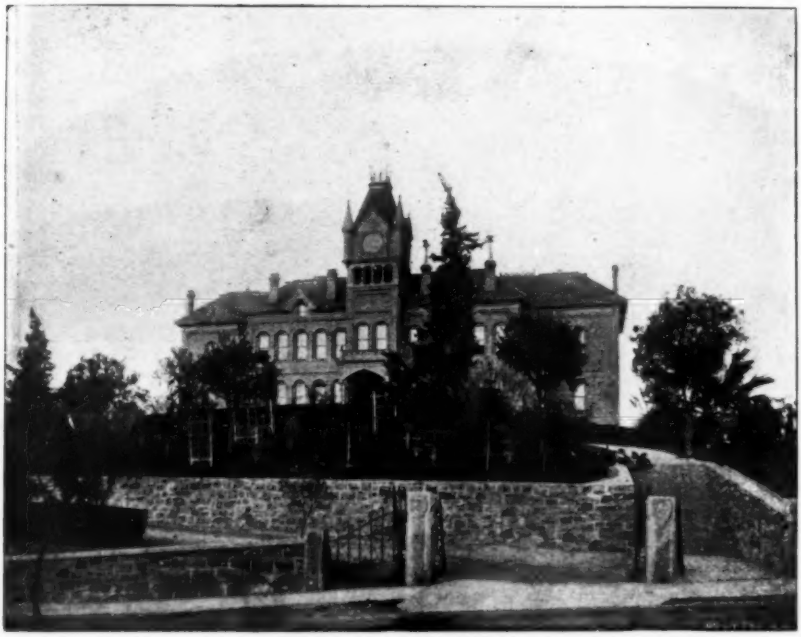
IN ancient times, mighty cities arose on sites which would now preclude them from attaining the rank of third-rate towns. Now-a-days topographical position is one of those imperatively important factors of development that decide the growth of a town. If the site of a projected city is such that easy communication with the world can be obtained, whether by river or railroad, inland lake or oceanic highway, when the industrial products of which it is the focus require external markets for the excess over local consumption, vigorous and rapid will be the progress of the new town, which in time will rise to metropolitan dignity. If, on the contrary, communication by water be wanting, and that by rail difficult and tardy, the city will languish and its growth be dwarfed, in spite of rich surroundings and the agricultural wealth that lies dormant and neglected all around.

A better illustration of the truth of this remark can hardly be found than in the comparison of Los Angeles of the past with the Los Angeles of to-day.

Whenever the Spanish padres of old established a mission and settlement in a newly discovered country, they never failed to select a location that possessed the advantages of fertility of soil and beauty of scenery. Ten years before the founding of the Pueblo de Nuestra Señora la Reina de Los Angeles, the mission of San Gabriel was established, and from it, September 4, 1781, twelve Mexican soldiers who had served their time sallied forth and settled with their

families on the site now occupied by the metropolis of Southern California. Beautifully located midway between the ocean and the mountains, with a climate unsurpassed even by that of Italy, the little colony slumbered in a cradle of indolence for half a century. Immense herds of cattle pastured in the meadows of the valley, and on the distant foothills; the rich lands eagerly responded to the rudest agricultural persuasion, yielding bountiful crops; and the simple-hearted people, devoted to a pastoral life, were happy and contented in their isolation. Rarely did vessels from Mexico touch their coast, sometimes not one in a year, and when they did so, they only stayed long enough to take on board the hides and tallows that had accumulated, having discharged such cargo as their captains could dispose of. Then the white canvases were hoisted and they sailed away again.

In 1831 a spasm of energy seized this pastoral community, caused by the opening of the trail to Santa Fé, and a lively trade was opened with that great trading center of the past. The town that had so slowly, so very slowly, grown during its childhood, began to expand, and in 1835 it attained the dignity of becoming the capital of Alta California. It was the means of communication with another land that aroused it from its torpor.



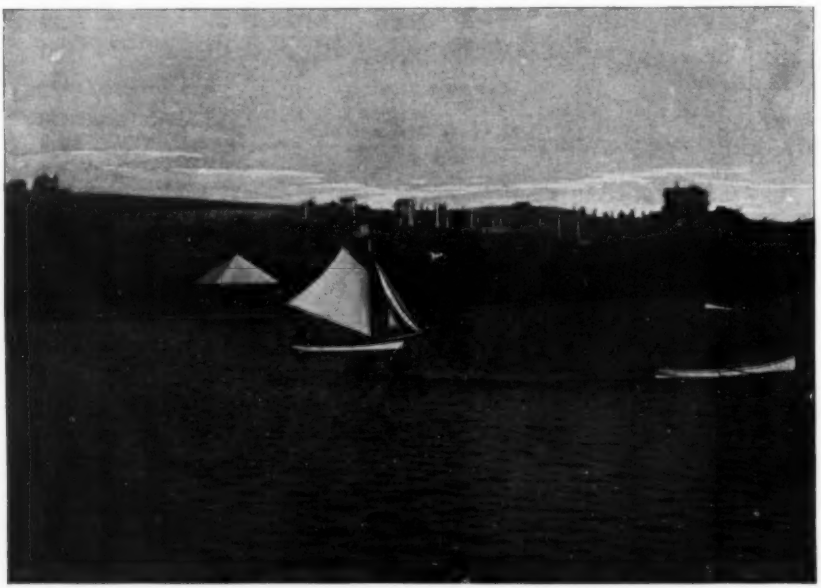
The Los Angeles Normal School.

In 1847 California passed under the government of the United States, but Los Angeles profited little or nothing by the tremendous influx of population caused by the gold discovery. Its population in 1854 was four thousand, of whom only five hundred were Americans, and in 1860 it did not exceed four thousand five hundred. Plodding on in a quiet, sluggish kind of way, during the next twenty years, Los Angeles, according to the census

Spring and Second Streets, Los Angeles.

of 1880, had a population of eleven thousand three hundred and eleven, which increase was mainly owing to the completion in 1877 of the Southern Pacific Railroad from San Francisco to Los Angeles, thus giving the city communication with the rest of the world. The year 1881, however, produced no increase, rather the contrary, for Arizona was booming under the influence of the discovery of the Tombstone mines and the prospect of an early junction of the Southern Pacific with Eastern railroads. Many of the inhabitants of Los Angeles deserted her, and hundreds of others tried to dispose of their property in order to seek their fortunes in the new mining district. Later in the year the junction of the Southern Pacific was effected, giving Los Angeles a shorter line through to the East, while the mining business in Arizona proved beneficial to the inactive town, inasmuch as that Territory was largely dependent upon Los Angeles for supplies. In December of that year some life was infused into the place, business thrived, and new buildings were erected. The dawn of progress was beginning to illumine the fogs of stagnation.

The initial start had taken place on the opening of the Southern Pacific, as already mentioned. Immigrants began to make their appearance, increasing the population; large tracts of land were divided into portions suitable to the requirements of settlers; irrigation enterprises were established, and then progress paused. It was ebb and flow, "Forward, march!" and "Halt!" with Los Angeles during her dull, sleepy career, down to within the last half-dozen years. Such is a brief outline of the history of Los Angeles of the past. And now the crisis in her existence has arrived; a great tidal wave of immigration, urged onward by the motive forces that



Boating on the Park Lake.

The New Courthouse, Los Angeles.

impel mankind to sudden impulses, set in and landed her on the platform of permanent advancement and prosperity. Not instantaneously permanent, for the tidal wave receded and left much wreckage, but permanent as regards the future.

In 1885 a competing transcontinental railroad came into operation, the Santa Fé line having been completed in November. The prospects of the future were brilliant, so brilliant that thousands poured into Los Angeles from all directions, and a real estate boom, unsurpassed and probably unparalleled by any other similar boom was inaugurated. There had been symptoms of such a frenzy occurring, just as there are warnings of the thunderstorm or of the tornado's rush. The completion of the Southern Pacific overland line, in the latter part of 1881, marked the first movement of outsiders toward Los Angeles, under the steady pressure of which vitality became more active. By the summer of 1883 long-headed people began to invest in real estate, and a boom of the mild variety occurred, values having doubled during the period from 1881 to 1883, while the population increased in a corresponding degree. Progress continued, and in November, 1885, the Santa Fé road was opened to Los Angeles. From that time the boom was impetuous, rapid, bearing all before it like a mountain torrent.

First Congregational Church.

People were intoxicated with enthusiasm over the prospects of Los Angeles and the county. It is impossible to describe the excitement that reigned during this period. Private sales of real estate and sales by public auction drew daily crowds. Purchasers formed lines before daybreak at the offices of

In the Sixth Street Park, Los Angeles.

real estate agents, in order to make sure of securing lots; bands of music enlivened the auction scenes, and lunch tables invited to good cheer. The advances in the values of real estate were excessive and of course unsound. The best available business property could have been bought in 1880 at the rate of one thousand dollars a front foot; during the boom some with capital and some with none—and subdivided into lots to suit purchasers; new townsites were laid out, and new towns sprang into existence. Down to the close of 1886, no serious consequences were the result of this frenzied excitement, but at the beginning of 1887 a number of outside speculators from distant states flocked to Los Angeles, like birds of prey.

Electric Car, opposite St. Elmo Hotel.

it was valued at twenty-five hundred dollars. For a lot on Main and Sixth streets that was sold in 1863 for twenty dollars a front foot, eight hundred dollars a front foot were offered in 1887. Land four miles outside the city limits, that had been sold for one dollar an acre in 1868, rose to one thousand dollars an acre. Large tracts of outside land were bought by speculators—Under the management of these old practiced hands the excitement was raised to the pitch of madness, and the installment plan was set to work. Under this process, what would have been a good, solid, and steady advance for three years was crowded into as many months; and then reaction naturally set in. The most curious feature about this boom is the fact that

The Sisters' New Hospital, Los Angeles.

most of the buyers during the spring and summer of 1887 were the people of Los Angeles themselves. The cry was raised by the speculators that during the following winter eastern people would swarm into Los Angeles, and that the time to purchase was before the land-hungry crowd arrived. Thereupon a mania for the acquisition of land possessed the inhabitants. Car-drivers and servant-girls, clerks and waiters, salesmen and saleswomen practiced an unimaginable economy, hoarding up every cent they could, in order to pay the first installment of one third on a lot in some one or other of the mushroom sites of paper cities that sprang up in the summer of 1887.

Under the Pepper Trees.

To give some idea of the fatal, or rather disastrous termination to the previous healthy boom we will have recourse to statistics. During the period from October 1886, to May 1887, inclusive, the monthly sales of real estate steadily advanced from two million, two hundred and fifteen thousand dollars to eight million, one hundred and sixty-three, three hundred and twenty-seven. The sales in June of the latter year, after the appearance of outside speculators, amounted to eleven million, five hundred thousand dollars; in July to twelve million dollars; and in August to eleven million five hundred thousand, making a total of thirty-five million dollars, in round numbers, for three months only. After August the sales began to fall off, and those for November did not reach six million dollars.

And now the arrival of the eastern visitors in force was anxiously awaited, but the holders of lots were doomed to disappointment. No such enormous number as that predicted by the real estate "sharks" put in an appearance, and what was worse, numbers of those who did arrive, failed to find Los Angeles to be the angelic city which they had hoped for. Muddy streets, the impositions of boarding and lodging-house keepers, and the unscrupulousness of real estate agents—two classes of temporary contributors to the pop-

Bird's-eye View of Los Angeles, from the Courthouse, looking North.

ulation which at that time particularly afflicted Los Angeles—disgusted them, and they left in crowds for other and more congenial places.

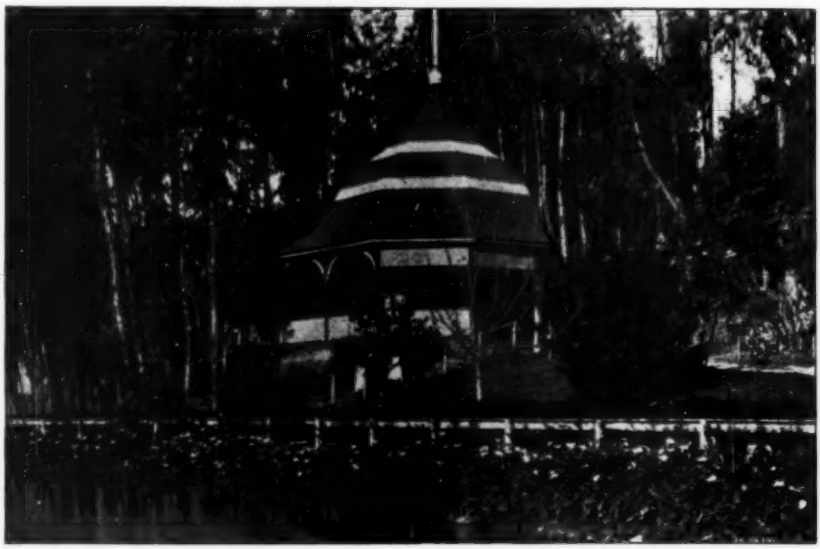
The real estate boom was over. A vast amount of money was lost by the victims of the "eastern visitor" cry, but there was no collapse. What disaster there was, was borne with fortitude by the sufferers, and the community at large had learnt a lesson. Many valuable enterprises were begun and finished, during this extraordinary rise in real estate, which, regarded with calm reflection, now that it is an item of history, must be considered as a somewhat violent upheaval followed by beneficial results. After the subsidence of the real estate boom, a building and town-improving boom followed, which in turn was succeeded by a productive boom, the backbone and motor nerve-power of the prosperity of Los Angeles. Let us now look upon Los Angeles of to-day and see what the last five years have accomplished.

High School, corner Castelar and Rock Streets.

To state that the population of Los Angeles is now sixty-five thousand would be under rather than over the mark, and the reader can well picture to himself the great increase that has taken place in the dimensions of the

Residence of Albert McFarland, Esq., "Crown Hills."

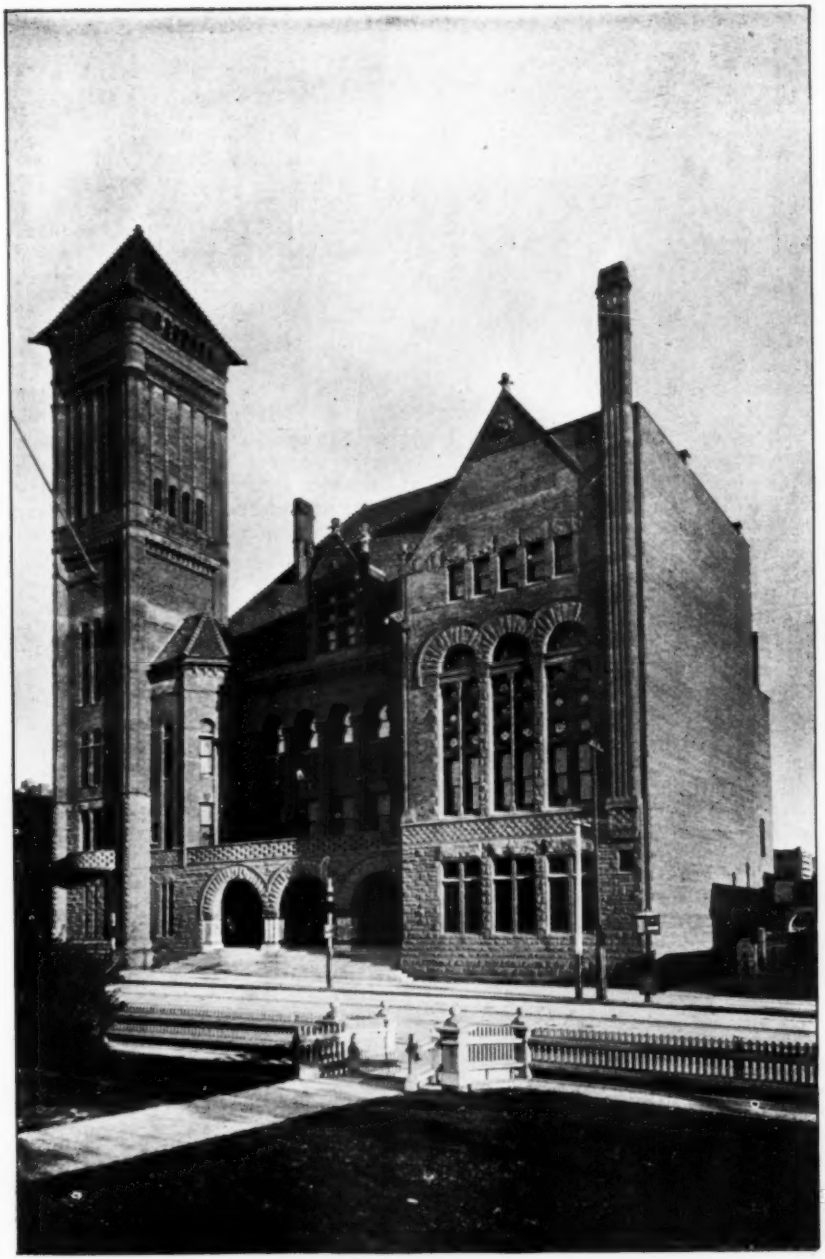
city during the last decade, when he bears in mind that the population in 1880 was only eleven thousand. We shall take a bird's-eye view of this same city. From our imaginary lofty standpoint we notice that the general trend of the town is northeast and southwest, stretching in a direction parallel with that of the river, on the northerly side of which the larger portion of Los Angeles lies. The business and denser portion is built somewhat toward the northeast, while far to the southwest extend streets and



Calla Lily Hedge in Second Street Park—in Winter.

streets of residences, which, as the distance from the populous business center increases, assume a suburban character. Residences, however, are scattered in all directions, while the public parks and squares, aggregating five hundred and forty-two acres, decked with choice semi-tropic trees and shrubs and private gardens adorned with many-colored flowers, give a rural aspect to this city of Our Lady, the Queen of the Angels. Across the river lies East Los Angeles, a populous town in itself of eight thousand inhabitants; and on Boyle Heights is another appendage to the city proper; on the west lie tempting hills which attract home-builders by the beautiful sites they offer for private residences, and beyond them, seventeen miles away, stretches the expanse of the Pacific Ocean, while southward, twenty-two miles distant, lies the Bay of San Pedro. We mark the numerous stately edifices, public and private, the miles and miles of graded and macadamized streets; the many lines of street cars ceaselessly moving to and fro, and we ask ourselves is this the same city where, little more than a decade ago, the merchant sat on his dry goods boxes "waiting for" business "to turn up," like Mr. Micawber's "something," and the country peddler could not always obtain of the retail dealer the amount of goods he wished to buy?

Vast has been the stride made during the last five years. Adobe buildings have disappeared and magnificent structures, such as the Hollenbeck



The City Hall, Los Angeles.

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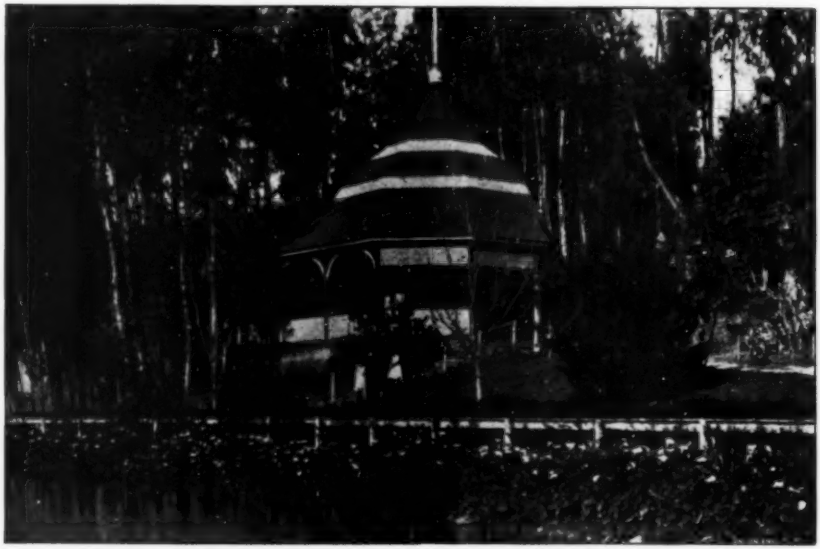

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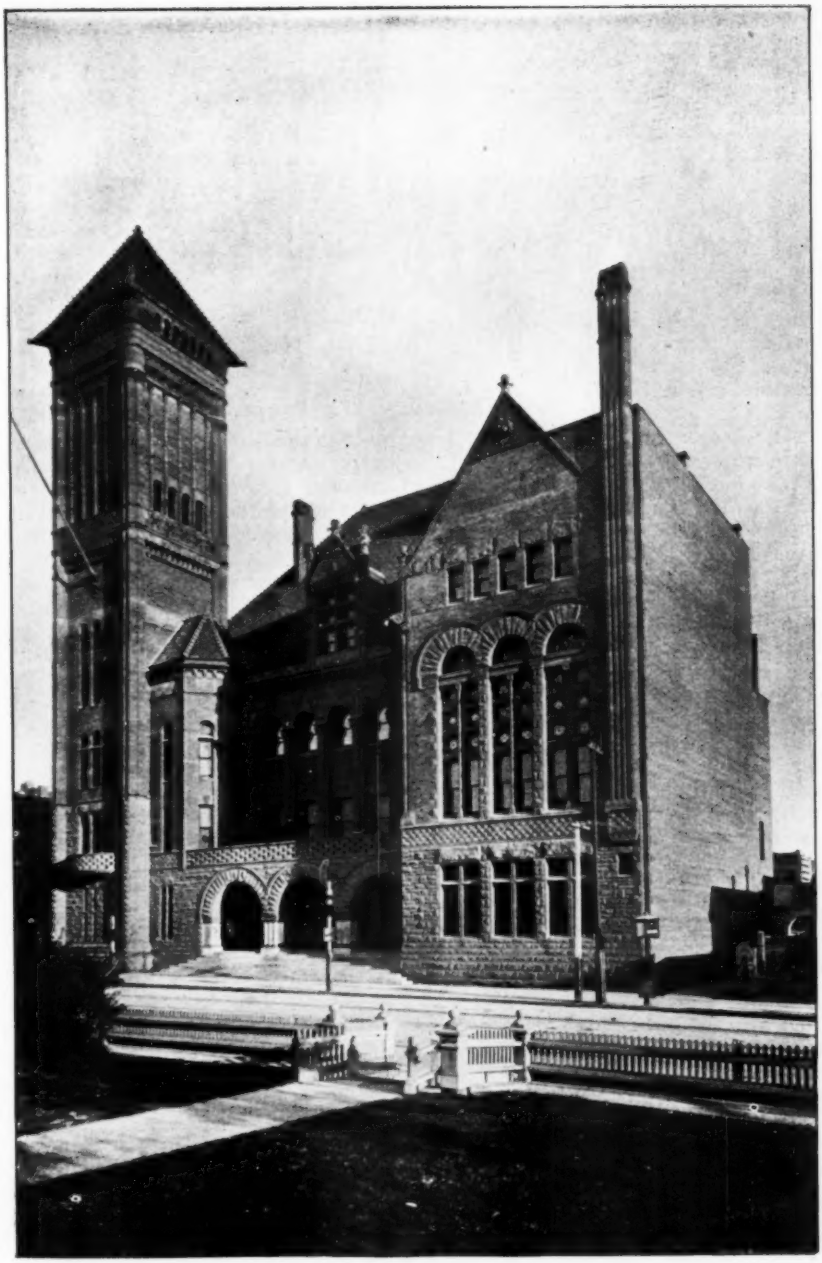


The City Hall, Los Angeles.

Hotel, and Bryson-Bonebrake Block, the Westminster Hotel and the Phillips Block, the Catholic Orphan Asylum, the Baker Block, the Griffith Block, the Wilson Block, the *Times* Building, and dozens of other private buildings that proclaim the solid prosperity and welfare of the people of Los Angeles. That the public buildings are not behindhand in fitly representing by imposing architecture the institutions of a flourishing community, witness the Court House erected at the cost of half a million dollars, and the new City Hall, which cost two hundred thousand dollars. Turn where we will, we come across stately and beautiful buildings such as the High School in Castelar street, Temperance Temple at the corner of Broadway and Temple street, the Young Men's Christian Association building in South Broadway, and the Farmers' and Merchants' Bank at the corner of Commercial and Main streets. The value of city property is in quintuple proportion to what it was nine years ago, the assessed valuation for 1882–3 and 1891–2 being respectively nine million two hundred and ninety-four thousand dollars, and forty-five million nine hundred and fifty-three thousand dollars, in round numbers. During that period, and mainly within the last five years of it, twenty million dollars were expended in the erection of buildings.

The area included within the limits of this now beautiful city comprises thirty-six square miles, delightfully diversified by valley, hill and plain, each tempting to occupancy by its particular attraction, and offering to the home-seeker a multiplicity of sites to select from for the abode of his Lares and Penates. A great portion of this location, with its pure atmosphere and genial climate, is still occupied by vineyards and orchards, and by unimproved sunny hillsides waiting to dispense their wealth of hygienic blessings and display the glorious scenery they hold to view. Within the indefinite precincts of the already inhabited portion of this large area, the public parks deserve especial notice. It must not be supposed when the City of the Angels shook off the lethargy of a century's duration, —a lethargy due only to that incomprehensible web-spinner of controlling circumstances which rule the advancement or retrogression of communities —that she could leap on to the pedestal of completion at a single bound. Completion is the result of development, and development is the product of time and intelligence. Nevertheless, her present rulers, with provident foresight, have provided for the pleasure grounds and happiness of her public, as far as lay in their power. They have not been able to plant a Garden of Eden within the existing dimensions of the city, but they have met the requirements of the population of Los Angeles, as regards a popular resort, for many years to come, by securing, for the public, Westlake Park, thirty-five acres in extent, with its lake and drives and bosky walks; the tiny Sixth Street Park, a jewel in a mural setting; the East Side Park of fifty acres, in East Los Angeles; and Prospect Park on Brooklyn Heights. Their providence, moreover, has looked beyond their own generation, and four hundred and fifty acres on the northwestern hills have been reserved as public park land. Elysian Park, with its magnificent views and the illimitable sources of recreation and enjoyment that it possesses, will, in all probability, be Elysian in fact as well as in name, within the next ten years. What a paradise will the alliance between art and nature make of it in thirty years!

To enter into details, with regard to institutions as represented at Los Angeles, is unnecessary. Her public schools and educational system, her college, the University of Southern California, her asylums and benevolent establishments, her social regulations with respect to charitable undertakings, and her attention to the arts and sciences and literature, correspond and

The Episcopal Church, from the Park, a Winter Scene.

are on the same altitude with her prosperity. Her citizens have made it their set purpose not to be found wanting.

Los Angeles had long ago been entered on the tablets of prosperity. During her long career of sluggishness, beneficent Nature was waiting to reward those who would meet her half way, in the surrounding country, to receive the wondrous wealth of produce she was eager to pour forth from her cornucopia of fertility. The time came and the people. The newcomers diverted her distant water courses and spread the vitalizing fluid over thousands of acres of ground that she had heavily charged with all the elements of vegetable life. Then, where erstwhile great flocks of sheep nibbled the parched pasturage, pregnant, all the same, with nutriment; where herds of cattle and big bands of horses browsed in the pastoral days; and where the sagebrush ruled supreme, orange and lemon groves sprang up, vineyards yielded their wine and raisins, the walnut tree reared its umbrageous form, vegetables of many kinds covered hundreds and hundreds of acres, and "waves of shadow went over the wheat."

We opened this article with the trite truism that communication with the outside world decides the welfare of a community, in this age. To-day eleven lines of railroad center in Los Angeles. But eleven hundred lines might have centered in the city and wrought little good to her, had not her citizens appreciated the latent resources of the soil, and had the enterprise to apply the touchstone of irrigation. It is only necessary to refer to the State Citrus Fair, held at Los Angeles in 1891, as an exponent of that enterprise. In no part of the world was ever such a display of fruit, and we can well imagine that Pomona herself was present in spirit and inspired the architects of the Ladies' Annex, on the occasion of that exhibition. The symbolic and artistic design, the elaboration of details, and the delicate construction work point directly to inspiration. As we gazed on the Goddess of Plenty with her upraised right arm and saw the profusion of fruits of many kinds issuing from the Zeus-blessed horn of Amalthea at her command; as we marked the rising sun shedding his first morning rays of golden glory on the orange grove that seemed to greet his radiance with promise of productiveness; and noted the lavishness of fruit around, we realized that the Ladies' Annex was one of the greatest attractions at the fair. At this great exhibition of the citrus fruits of Southern California, fifty thousand oranges, lemons and limes were used in constructing the exhibits made by the horticulturists of fifteen different localities, and more than one hundred men were employed for the space of eight days in constructive and other work.

In order fully to appreciate the magnitude of the results of irrigation, let the reader well consider the fact that the shipments of oranges alone over the Southern Pacific railroad, for the eleven months ending December of that same year, 1891, amounted to fifty-seven million and six hundred thousand pounds, or twenty-eight thousand and eight hundred tons.

A prominent feature, as a result of this progress, is the improvement in the streets and thoroughfares. No longer can the visitor proclaim his astonishment and sympathizing sorrow at the muddy condition of the sidewalks in this City of the Angels; no longer has the draught horse any danger of being foundered at a crossing. There are now ninety miles of graded and graveled roadway, and ten miles in asphaltum. The foot passenger can take his stroll on the level concrete pavement as long and as far as he likes, or the pedestrian can occupy the whole day at a seven-mile gait, if he could do it, and never tread twice the same sidewalk, for there are eighty miles of it.

Los Angeles is well represented by an intelligent and progressive press.

Millard Cañon Fall, Sierra Madre Mountains, near Los Angeles.

The Republican party finds champions in two papers—the Los Angeles *Times*, a sterling morning paper, edited by Col. Harrison Gray Otis, who has done much in advancing the interests of the commonwealth, and the *Evening Express*, edited by H. Z. Osborne, who has been a prominent figure in the upbuilding of the city. The *Herald*—Democratic—is a morning paper, edited by Messrs. Ayres and Lynch, well-known journalists, and as with the others, by its publication of special editions and valuable articles on the resources of the county, has aided materially in the true development of Los Angeles city and county. Los Angeles has a number of weeklies, as the *Porcupine*, the *World*, the *California*, and the *Rural Californian*, an ably conducted monthly, edited by Messrs. Heintz and Kruckberg.

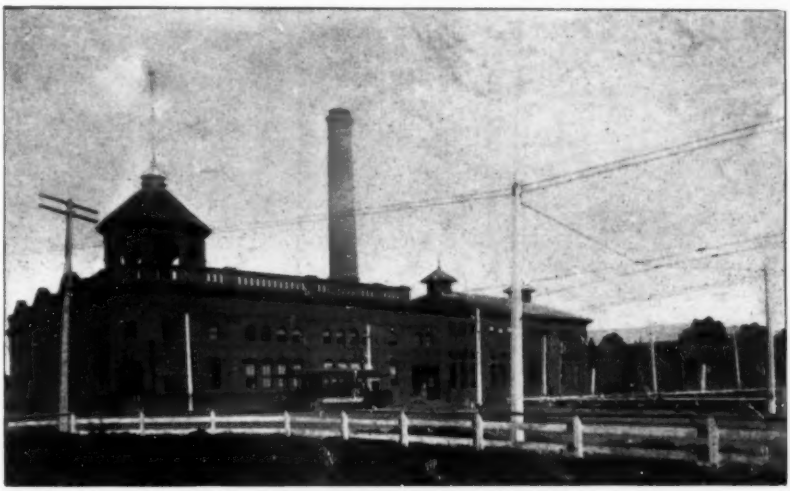
What the Mexicans call *el movimiento* is an indicator of the activity of business in a city, and the street railroads form a principal factor of that indicator. There are now no less than one hundred miles of street railroad, extending along all the principal thoroughfares. In 1887 the first electric line—the Pico street line—was put in operation in Los Angeles. This was the first line to use electricity as a motive power, west of the Rocky mountains. It is a certainty that, for convenient and rapid personal transport, that method of locomotion will be an absolute requirement of the future. Enterprising men had foreseen this, and in 1890 the Los Angeles Consolidated Electric Railroad Company obtained a franchise from the city authorities, extending over a period of fifty years, commencing from October 14th of that year. The conditions of the franchise were made very favorable to the Company, which has been successful from the start. There are already forty-seven miles of road in operation all laid with forty-five-pound steel rails and supplied with cars of the latest and most approved style. General M. H. Sherman is president, Mr. E. P. Clark, vice-president and manager, Major A. W. Barrett, superintendent, and under their able management the affairs of the company are in a thriving condition. Their buildings and plant are situated in the southwestern portion of the city and constitute one of the principal signs of progress, so many of which now mark the advance of Los Angeles. All the buildings are of the most substantial class, being constructed of brick, iron, and Arizona red stone. The main building is one hundred and forty feet by one hundred and twenty-four feet, and contains all necessary offices, a reading room, and the engine and dynamo room. On the south side and on the first floor are the offices of the cashier and superintendent, elegantly furnished and of cheerful aspect. The free reading room, which is sixty feet long by thirty-five feet wide, is on the second floor, and is supplied with books, the daily papers and all the leading periodicals and magazines of the day. On the same floor are the offices of the electrical and mechanical engineers, in which are kept the plans, drawings, statements, etc.

The engine and dynamo room is worthy of particular description. It occupies the north part of the building and contains at present two low-pressure engines of the Thompson-Corliss type, each of seven hundred horse-power. These engines were made by the Golden State Miners' Iron Works of San Francisco, and furnish the power which puts in operation two two-hundred-and-fifty horse-power and one seven hundred horse-power Westinghouse generators. This generator is one of the largest in the world and was constructed expressly for the Los Angeles Electric Company. In addition to this machinery, the company will soon put up two other two-hundred-and-fifty horse-power generators and another engine, which are intended to furnish electric light and manufacturing power. The boiler-room is eighty feet in length by seventy feet in width, and is equipped with three one-thousand horse-power Sterling water

tube boilers. Crude oil is used for fuel, and is obtained from Santa Paula, California. The oil, driven by high-pressure pumps, comes in contact under the boiler with dry steam and forms an intensely heated spray. Apart from the economy of this kind of fuel, a great advantage is derived from the cleanliness enjoyed in the use of it. The black dust and suffocating clouds of ashes, and the accompanying dirt which make the typical boiler-room so disagreeable to its inmates, are here conspicuous by their absence.

The machine-room is eighty feet long by thirty-six feet wide and is equipped with a fifty horse-power engine, two large jet condensers, two feed pumps, two condensing pumps, all of large size. The machinery consists of iron lathes, planers, wheel borers, wheel presses, shapers and other necessary machinery, all being of the latest and most approved patterns. Car and machinery repairing, as well as that of the electrical plant, is done by the company, which also manufactures no small portion of their rolling and other stock. The car house is one hundred and seventy-three feet long by one hundred and sixty feet wide. An admirable regulation has been adopted and put in force by the officers of this company with regard to medical assistance. Each employé is required to pay half a dollar a month, which subscription entitles him and his family to the best medical attendance and medicine free of charge, the expenses being paid out of the medical fund thus obtained.

The railroad system of the company is divided into seven branches or main lines. These radiate from a common central point at the Arcade depot, pass through all the most important thoroughfares of the city and extend to all the best suburban places of resort, present or prospective. The first line leads to the University station and will run its cars through to East Los Angeles; other lines extend to West Lake Park, Elysian Park, and Boyle Heights.



The Power House of the Electric Railway.

That the success of the Los Angeles Consolidated Electric Railroad Company will be marked, there is no doubt. The electric company has been fortunate in securing a favorable franchise for the period of half a century; the foresight of its promoters, in looking

beyond the present, and in their mind's eye seeing the densely crowded streets of Los Angeles twenty years hence, and the many heavily loaded cars of their electric line passing to and fro without ceasing, has secured for the stockholders future wealth.

The future welfare and prosperity of Los Angeles are secured by two great factors of success—railroad communication and the inexhaustible fertility of the surrounding country.

With such a system to develop the outlying country, it can be seen why Los Angeles is growing so rapidly, and it should be noted that the indications are that the city is to be the great railroad center of the southwest. It is at present the central point of a number of roads, chief among which are the Atchison, Topeka and Santa Fé, the Southern Pacific, while the Terminal leading from the sea to Los Angeles, through to Pasadena, and now being connected with the Lowe Sierra Madre Mountain railway, is supposed by many to soon become a third transcontinental road.

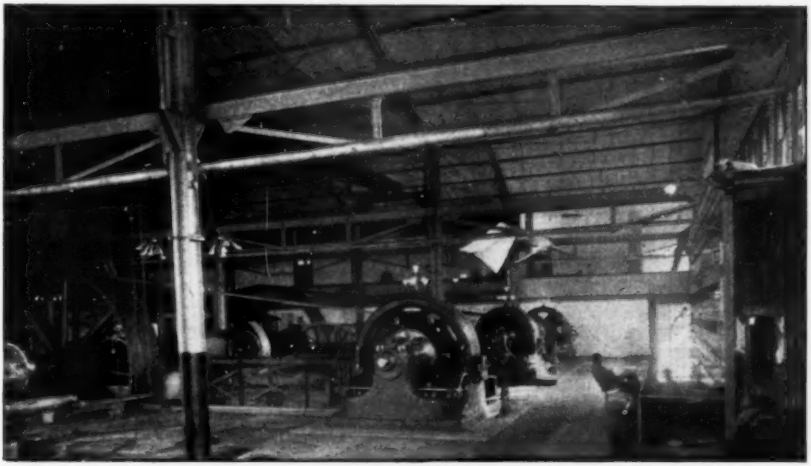
With two ports, those of San Pedro and Redondo, within short distances, Los Angeles almost occupies the position of a seaport. Her position as a commercial focus is undeniable, and the time is not far distant when ships from China and India will discharge their rich cargoes at San Pedro, Santa Monica and Redondo, and ship them eastward through Los Angeles. In time, also, manufactures will assume their just proportion in the industries of the city. At present the scarcity of cheap fuel is a retarding influence, militating against the development of the manufacturing industries, but when the proposed railroad shall have been put in operation through the coal fields of Southern Utah and Nevada, when the petroleum supplies in Southern California have been well developed, this suppressive factor will disappear. Even under the existing drawbacks, there are several hundred manufacturing establishments in Los Angeles. Raw materials are plentiful enough in the shape of fruits and vegetables, hides and wool, clay and cereals. Consequently there are fruit canneries and fruit crystallizing works, wineries, breweries, brickyards and flour mills There are, moreover, foundries, planing mills, furniture manufactories, iron-pipe works and many other industrial enterprises.

Los Angeles is destined to become the great sanitarium of the United States, as here, within a radius of thirty miles, are conditions found nowhere else in the world—localities that men who have circled the globe in search of health state to be most favorable to the invalid and health-seeker. A glance at these conditions may be interesting. Los Angeles stands midway between the Pacific and the lofty range of mountains known as the Sierra Madre; three lines of railway take one to the ocean at Long Beach, Santa Monica or Redondo in half an hour, where the finest beaches and bathing in the world can be had every month in the year. An interesting instance in actual life can be given to illustrate the climatic possibilities and extremes of the City of the Angels. Two brothers were ordered to Los Angeles by an eastern physician. Upon arriving, the Los Angeles physician ordered one to the sea and one to an altitude of six thousand feet. The brothers objected on the ground of separation, but the doctor laughingly reminded them that they were in California and that he would arrange it so that one would sit daily by the ocean and gain the benefit of the salt air, while the other would wander beneath great pines, over a mile above the sea, yet they could communicate with each other, and could reach one another within an hour or so if necessary. The patients laughed at what they considered a California joke, but the doctor was serious, and two days later one brother was domiciled at the beach, twenty-two miles from Los Angeles, while the other was at Mt. Wilson, six thousand feet above the

Pacific, just over Pasadena, and twelve miles from Los Angeles, where they carried on a conversation by means of the heliograph, and by signaling could have met in an hour's time.

In short Los Angeles is the central point of a remarkable region. The traveler can reach the ocean, lofty mountains, cool cañons, valleys rich in verdure, the orange, lemon and lime, dry, arid regions, farther inland, in fact almost every condition, all within a few hours.

It is almost impossible to describe the climate of this singular land. What does the reader think of a city in which the residents can say on a December day: "This morning I am going to take a sea bath at Redondo. We lunch in Altadena with Mrs. T—— to try her oranges and strawberries that are just ripe. Then in the afternoon we join Mr. S.'s toboggan and sleigh-ride party, on Mt. Wilson, and shall be back in Los Angeles by eight o'clock. This very simple plan is a winter possibility to the dweller in Los Angeles, and means that the participant has enjoyed the pleasures of an eastern winter, a summer dip in the ocean and a lunch in a semi-tropic orange grove all in one day. What locality in the world but Los Angeles can offer these inducements, can offer so much variety in so short a time? The seasons may be described as a warm summer, but not too warm, and a cool summer, but not cool enough to interfere with the most delicate flowers that bloom the year around. The summer time is the dry season, and the winter is the wet, the latter meaning about twenty inches for the season — half that of the yearly fall of New York. Sun-stroke is never known, and in ten years there were but thirteen days when the thermometer rose to one hundred degrees, and eight days when it fell below thirty-two degrees The average number of days annually, when the temperature exceeded ninety degrees, was fifteen. The statistics of the climate are extremely interesting, and show in brief that Los Angeles is in the true land of sunshine, accounting for the wonderful cures chronicled here and in the immediate vicinity. A great charm of Los Angeles consists in its beautiful homes, that the year around are embowered in flowers. A typical Los Angeles residence is well

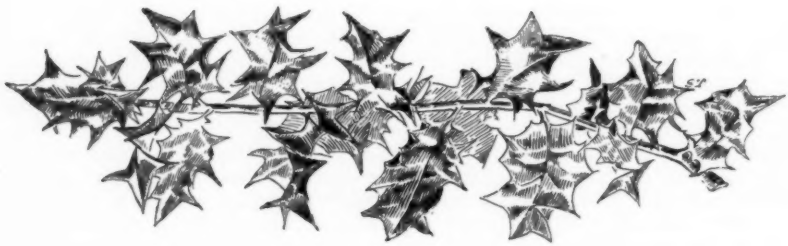


In the Power House of the Electric Railway.

shown in the accompanying illustration of the residence of Mr. Albert McFarland, business manager of the Los Angeles *Times*. The location is on "Crown Hills," commanding a magnificent view of the distant Sierra Madre, the site of the Harvard Observatory, that is to contain the largest telescope in the world. Here we have a home surrounded by lawns and terraces, where can be seen the fruits and flowers of almost every zone, from the palm and banana to the apple, pear and peach, suggestive of the delights of life in Southern California.

Around Los Angeles, after the advent of her prosperity, numbers of lesser lights have sprung into existence, each beautiful and attractive in its particularity of locality and surroundings. Each and all enjoy the most delightful climate, and each will march hand in hand with the metropolis of Southern California along the broad highway of success.

Bird's-eye View of Spring Street, from the Stowell Building.



THE RISE OF DIAZ.

BY JOSE GONZALES.

WHEN, in 1821, Mexico achieved its independence, Agustin Iturbide attempted to establish an empire but failed and suffered death. Then the first republic was established with Guadalupe Victoria as President, and the first Constitution, similar to that in force in the United States, was adopted on the 4th of October, 1824. Two parties then were formed—the Centralists, made up of the old Spanish element, and the Federalists, that supported liberal ideas of Government. These two parties alternately ruled over the land, their struggles for supremacy giving rise to the civil wars that were then so prevalent in Mexico. After the termination of the war with the United States those parties became in name the Conservatives and the Liberals. The former wished to perpetuate the power of the church and of the privileged classes, whilst the latter advocated religious freedom and all the liberal ideas of government.

On the 5th of February, 1857, the Liberal Constitution, which is still in force, was proclaimed. Under it General Ygnacio Comonfort was elected President of the Republic, and Benito Juarez Chief Justice of the Supreme Court, an office which made him Vice-President.

Comonfort, yielding to the advice of false friends, determined to govern in an autocratic manner, disregarding the new Constitution. When he saw his error it was too late to retrace his steps, and he left the country, Juarez becoming President by virtue of his office. The Conservatives, led by Miramon, Zuloaga, Marquez and other men of note in their party, took possession of the city of Mexico, while Juarez withdrew to Vera Cruz, and there established the constitutional government of the Republic. The three-years' war, called, of reform, then began.

Juarez then issued the laws which gave the death blow to the privileges of the church and the military classes, proclaimed the separation of church and state, the liberty of worship, speech and of the press, did away with cloisters and monasteries and confiscated church property.

In this war of reform many distinguished generals fought on both sides, such as Santos Degollado, Doblado and Gonzalez Ortega on the Liberal side, and those already mentioned for the Conservatives. At one time it seemed as if the Liberal party was to fail altogether, and Miramon, with a large army, besieged President Juarez at Vera Cruz ; but soon reverses overtook the Conservative leaders, until in December, 1859, at Calpulalpam, General Gonzalez Ortega gained a decided victory over them.

President Juarez returned to the City of Mexico in 1860, and, soon after, an election was held, when he was elected Chief Executive of the Nation.

The country seemed to be about to enjoy peace under Liberal institutions, when, early in 1861, a coalition was formed between England, Spain and France to force Mexico to pay certain claims, the legality of which was somewhat doubtful. The forces of the invaders, upon their arrival at Vera Cruz, obtained the sympathy and support of a portion of the Conservative part, but the rest of the nation rose up in arms to resist the foreigners. Spain and England, convinced that they were arrayed in favor of an unjust cause, withdrew their forces from Mexican territory ; but France, which was then governed by Napoleon III, determined to continue in the field. Its

troops, led by General Laurencez, attacked the City of Puebla, and there, on the 5th of May, 1862, sustained a crushing defeat. The Mexican troops

The Late Emperor Maximilian.

were there under the command of General Zaragoza, and among those who fought under him were Generals Diaz, Berozabal, Alatorre and others who afterwards bore such a distinguished part in the second struggle for Mexican independence.

Napoleon III then sent further reinforcements, and these, led by General Forey, renewed the struggle. The French at the beginning of 1863 laid siege to the City of Puebla, which was defended by the Mexican patriots under General Gonzales Ortega. The siege was a long and stubborn one, and lasted nearly three months. After all the ammunitions and provisions were exhausted, the Mexicans surrendered, after destroying their arms. The Mexican officers captured were sent to France as prisoners of war, but some of them, like General Diaz, escaped before being sent, and went to swell the ranks of those who continued to fight against the French and the few Mexicans who joined their ranks.

President Juarez, with his Cabinet, left the Capital and established the government at San Luis Potosi, then at Saltillo, Monterey and Chihuahua, and finally at Paso del Norte.

The French entered the City of Mexico, and set up a government composed of some of the leaders of the conservative party. These in turn asked Archduke Maximilian, of Austria, to become Emperor of Mexico. This offer was accepted by Maximilian, after he was assured the support of Napoleon III.

When Maximilian and his wife, Carlotta, entered the City of Mexico, and were received with pomp by the French and the few Mexicans who assisted them, the Mexican patriots, under the leadership of Porfirio Diaz, Escobedo, Corona, Rocha, Regules and other brave generals, were fighting stubbornly and well against the invaders of their country with varying success. However, it may be said that at no time was Maximilian's power acknowledged, excepting in those places held under check by the French arms.

When Napoleon III determined to withdraw his troops from Mexico,

Empress Carlotta.

Maximilian, who had theretofore tried to conciliate the Liberal party, though without success, threw himself into the arms of the Conservatives and

appointed Generals Miramon, Mejia and Marquez to lead his troops. The Mexican forces obtained victory upon victory, until in the spring of 1867,

The Late Ex-President Juarez.

Maximilian and some of his generals were besieged and then taken prisoners at Queretaro.

While the siege at Queretaro was going on, General Diaz achieved a glorious victory at Puebla, which city he took by assault on the 2d of April, 1867. After defeating the Imperialists outside of that city, he laid siege to the Capital that was defended by General Marquez. Soon after Queretaro fell, the City of Mexico surrendered to General Diaz, and the Liberals were restored to power.

Prior to this, however, Maximilian and his two generals Miramon and Mejia, were tried, and despite the influence brought to bear on President Juarez and his ministers Lerdo de Tejado and Yglesias, the sentence of the court was carried out, and they were executed on the Cerro de los Campanas, outside of Queretaro. This execution was necessary to preserve the peace of the country, and Maximilian truly brought it on himself, because he had issued a decree ordering the shooting of every Mexican who was taken by the Imperialists fighting for his country.

Benito Juarez was elected again to the Presidency after his return to the City of Mexico, and thereupon three parties were formed, though all advocated Liberal principles. One of said parties supported President Juarez, whilst the other two respectively advocated the election of General Diaz and Lerdo de Tejada to the Presidency. The struggle between these parties was first confined to the press and the halls of congress; but when an attempt was made to re-elect Juarez, the partisans of General Diaz rose in arms. The government endeavored to crush this movement by force, and although its forces were quite successful in many instances, the uprising was not put down. Despite the protests of the partisans of Diaz and Lerdo, Juarez again was installed as President of the Republic. The revolution continued, but the death of Juarez, occurring on the 18th of June, 1872, put an end to it. Lerdo de Tejada, by virtue of his office of Vice-President of the Repub-

Ex-President Lerdo de Tejada.

lic, became President, and General Diaz retired to private life.

Lerdo de Tejada, upon the termination of Juarez' unexpired term, was

elected President in 1872, and during the first years of his administration, no revolutionary movements were initiated. Towards the end of his

Archbishop Labastida.

term, his partisans began to advocate his re-election, whilst those of General Diaz presented the claims of their candidate. All the acts of the existing government showing a determination on its part to have President Lerdo re-elected, thus thwarting the popular will, which was overwhelmingly in favor of General Diaz, the partisans of the latter determined to uphold his claims at all hazards, and at Tuxtepec and then again at Palo Blanco, proclaimed their opposition against the re-election of President Lerdo de Tejada.

Civil war then commenced anew, and the fortunes of war at first did not favor General Diaz and his partisans, for after sustaining some reverses, they were apparently crushed at the battle of Ycamole. The administration of President Lerdo considered that the opposition was entirely crushed when it ascertained that General Diaz was out of the country and in the City of New Orleans. He took passage in disguise from New Orleans and was landed by the purser of the steamer at Vera Cruz, in June, 1876. He made his way to Oaxaca, where he organized an army and shortly afterward won the decisive battle of Tecoac, which caused Lerdo to flee the country leaving General Diaz in possession. At the elections held afterwards in 1877, he was elected President. When he entered upon the discharge of his duties, there was not a cent in the treasury; the country had no credit either at home or abroad; there was but little security for life and property; only about three hundred miles of railways, a few hundred more of telegraph lines. There existed a bitter hatred toward Americans, and industry and commerce were paralyzed. To-day, under General Diaz' wise administration, Mexico is respected among the civilized nations, her credit abroad stands as high as that of any other country. Her broad lands are crossed in every direction by railroad and telegraph lines, her manufactures and commerce, her mining and agricultural industries have been phenomenally developed. There exists to-day a friendly feeling to Americans as a nation and individuals. Peace has

General Manuel Gonzalez.

reigned supreme for fifteen years, and this wonderful prosperity is entirely due to the untiring and ceaseless efforts of the President.

POLITICAL DUTY OF CALIFORNIANS.

BY RICHARD H. McDONALD, JR.

CALIFORNIA became a state forty-two years ago. Her admission was not in conformity to the usual methods. Congress never gave her an organic Act and territorial government. Her tutelage and preparation were practically under military rule, nor was her admission preceded by an ennobling Act. The people proceeded in their sovereign capacity to elect a convention, which framed a constitution, and to which they gave their assent. The original thirteen states entered the Union by mutual consent, Texas was admitted by joint resolution, Maine was detached from Massachusetts, and West Virginia was carved out of the Old Dominion by the consent of Congress. In all other cases, admission was preceded by some preliminary action of Congress.

The manner of her admission was not the only exceptional feature. California had been acquired little more than two years before she became a state. The so-called native Californians, or Mexicans as they are better known, numbered about thirteen thousand, and the other classes of citizens in the main were new-comers from every part of the nation. They were brought hither by the gold excitement and a spirit of adventure. The area of California was large, climatic conditions were varied, resources were extraordinary as productions of the soil were abundant and rich, and covered a wide range. It was supposed that her wealth in the precious metals rivaled that of Ormus and of Indu. Enterprise was unbounded, wages were high, and the miner, banker, merchant, laborer and professional classes were generally prosperous. It was a land of large ideas, and living was extravagant. Many who aided in framing the first fundamental law expected to remain in the country only long enough to acquire fortunes, and the same was true of a considerable percentage of their constituents. The first constitution may almost be said to have been made by non-residents.

It is a well-known fact that nothing is so well done in a new as in an old country. Pioneers are always too busy with their private affairs, too intent on gaining a livelihood, and in preparation for comfortable life, to give their best thought to public questions, as is more common among people who possess competency and leisure. The first settlers are content to live in cabins for a time and until they are able to erect better residences, and provide ampler conveniences of life. It is quite natural that there should be a similar feeling in regard to matters of government. Compared with a majority of the states, California is young, but with a large minority she is old. Since her admission there have been many changes in the constitution and laws of the older states. The newer states in preparing their constitutions had the benefit of the experiences of others and the improvements made by them. California came in before there was the progress that has characterized the last quarter of a century.

At the time she acquired statehood, there was the most intense political feeling, and more thought was given to the disturbing questions then in issue than to providing the best machinery of government. The idea also prevailed throughout the nation that party success was best assured through the creation of a multiplicity of offices to which liberal compensation was attached that profitable employment might be given to those who

made politics a profession and performed political work. Those were days when spoil was the most powerful incentive to political effort.

Under all these circumstances it could hardly have been otherwise than that a constitution should have been framed that did not reflect the most advanced ideas, or recognize the principles of the most rigid economy. It was natural, too, that laws early enacted thereunder should have been of the same character. A superfluity of offices was created, and salaries and fees were in accord with the extravagant ideas then prevalent. Governments in California, state, county, and municipal, are among the most expensive in the nation. At the outset they were more so than at the present time, as to some extent salaries have been reduced and expenses otherwise curtailed. There is still ample room for improvement. Our courts are excessively expensive from the large number of clerks, bailiffs and hangers-on employed, and paid out of the public treasury. The practice, as administered is productive of delays as well as of needless expense. Our County Boards of Supervisors are clothed with extraordinary powers, and they have not been exercised as a rule in the interest of the greatest economy. The Supreme Court has recently made a decision which circumscribes their power to expend money. As the courts do not make laws, they can only limit expenditures by applying the rule of strict construction. The chief remedies must be sought from the law-making power.

We have county and municipal assessors, and consequently duplicate assessments, which impose an unnecessary and large expense. In other states, one assessment answers for all purposes. It is true that the Legislature, during the last session passed an Act which permits City Councils to adopt the county assessments as a basis of municipal taxation. The law is not imperative, as it should be, for wherever a ring is in control or the idea prevails that the more officers there are the better it is for party, Councils will disregard the option and retain the city assessors. We have county and city tax collectors, which are unnecessary officers. In many of the states county treasurers collect all the taxes, and pay over to the state, municipal, school and other treasurers the sums belonging to them respectively. To abolish these offices and impose their duties upon the county treasurers will save a large expense. Beyond this it is a great convenience to the people to have one place where all taxes are paid and a clean receipt given. To point out all the cases where the pruning knife should be applied and expenses lopped off would make an article too long to suit the taste of most magazine readers.

The Constitution of 1879 was intended to be an improvement on its predecessor, and it undoubtedly is in some respects. In one feature, experience has demonstrated that it works an injury to a class it was intended to benefit, and that is the provision which requires a lender of money to pay the tax upon land on which he takes a mortgage. If the conventional rate of interest were sufficiently limited, it might be otherwise. But as it is unlimited, the lender is sure to exact a rate high enough to cover the taxes, and generally a little more. The result is the borrower pays more interest than he would in the absence of any such constitutional provision. Moreover it complicates the assessment of lands and the collection of taxes. Those who fathered the provision ought to be satisfied that it should be expunged from the Constitution. To reduce expenses is not the only work to be done. Simplification and adjustment of the laws so as to create a harmonious system easily operative is necessary to facilitate the public business and reduce the cost of government.

Every people, when they have become accustomed to them, are apt to regard their system and methods of

government as the best, or at least with toleration, and hence there is an indisposition to make changes or to inquire whether improvements are necessary. It is true that change may not be reform, but it is also true that methods in California are not as simple and practical as are those in some of the states. It is not unnatural that it should be so, because they have had the advantages of longer existence and greater experience, and have not been environed by those tremendous and absorbing enterprises and efforts to develop the country, which have existed in this state. The time has come when there should be earnest and intelligent inquiry into conditions with a view to discovering where changes will be beneficial, and when discovered to see that they are promptly made.

It is quite different now from what it has been. Formerly there were better opportunities for acquiring large wealth by the few, in railway building, in mining, agriculture, in the appreciation of land values and in speculation. Lands have been cheap, and capital in the past could be more profitably invested than at the present time. The great ranches to an extent have been subdivided and sold to small farmers. Wealth *per capita* is less because population has increased through the immigration of mechanics and those who gain livelihoods from labor on the farms. When the bulk of taxes was paid by those whose incomes were large there was not a marked disposition to enforce economy. Taxation more seriously affects the farmers and mechanics, as their incomes are comparatively small. These changes of circumstances have produced a revolution in public sentiment, and it is increasing in its hostility to unnecessary public expenditures. It is best for the country that it should be so. The political party that is blind to or ignores the tendency of the times is destined to be engulfed in the maelstrom of popular disapproval. The two great political parties of this state in 1890 comprehended this, and sought to satisfy public sentiment by passing resolutions limiting the rate of taxation for state purposes. The Republicans said it should not exceed fifty cents on the hundred dollars, and the Democrats reduced it to forty-five cents. The principle is wrong, but the motive may have been good. Resolutions have no binding effect, and though faith may apparently be kept, yet actually it may be broken through an arbitrary increase of valuations by the Board of Equalization. There can be no cast-iron rule applicable to all circumstances. Fifty or twenty-five cents on the hundred dollars may be too much or too little. All and no more than is necessary should be appropriated. If they receive an equivalent in benefits the people are willing to pay any necessary rate of taxation. The only safe and just rule is to elect men to office who will keep expenses as low as possible, whatever may be the circumstances. Then it will be unnecessary to throw around them the restraining influence of resolutions adopted by party conventions.

Of our legislatures it has become a trite saying that the last is the worst. It is, probably, unjust to thus characterize all of them. Such opinions, however, prove that the people have little confidence in our solons, and also that there is general dereliction of duty, if nothing worse. Reputation has been bad so long that misconduct is practically tolerated in so far that effective measures are not adopted to guard against it in future. There has been plenty of rotation in electing legislators without improvement, in fact—or, at least so far as public opinion goes, whether there shall be a change for the better is a matter that rests entirely with the people. They are all-powerful, and unless they can be aroused to healthful and effective action there never will be reform. So long as the people are apathetic, incompetency, indifference and boodleism will rule. To elect Senators is not the chief object for which legisla-

tors are chosen, nor is it their mission to promote class interests, or to engage in jobs. Their duty is to make a study of the situation, to revise and improve at all points, and do their utmost to promote economy and effectiveness in government. It is not enough to merely elect new men, but the utmost care must be taken to secure those who are honest, capable and faithful. The official who is delinquent in the discharge of duty, and the rascal, must be visited with condign punishment—the former as a political, and the latter as a social, outcast. A proper bestowal of rewards and the infliction of deserved punishment will have a most salutary effect. We have had many good legislators, but the trouble has been that there has not been enough of them.

An obstacle to a more rapid approach to perfection in our institutions and laws is the proneness to allow political considerations to subordinate the public interests. Governors and legislators look too much after party or personal success to admit of that careful and comprehensive consideration of measures which is dictated by a paramount desire to promote the public welfare. The best party strategy is to give the people the best government. No public officer should be influenced by selfish considerations beyond the desire to deserve the good opinion and gratitude of the people by a wise and faithful discharge of duties.

Government is a progressive science, and the people, as well as legislators and officials, should ever hold the improving hand in readiness to be applied whenever or wherever defects are discovered. As the first settlers of a country are not apt to do their work with system and thoroughness, so the pioneers in instituting a government do not, as a rule, make the best constitution and laws. They should be changed to meet the exigencies of changed conditions. Experience is the greatest of schools. We have before us the results of experiments that have been made by all the states of the nation. Experiments have been so numerous that there is little danger of mistake if there is proper research, and changes are thoughtfully made. Errors in legislation may be in doing too much as well as not enough, while wisdom may be gained from the study of the institutions and laws of other states. Conditions are varied and changes should be made adaptable to our own. Defects in legislation are not the only evils. Details in administration demand faithful, intelligent and patriotic attention. There are extravagances and blunders to be guarded against in every branch of the public service. If the highest officials set the proper example, delinquency in subordinate places will be less likely to occur.

The true principles of popular government have become well defined and established after a century of experiment. They are no longer a subject of contention. The questions before us are material and social. A state has little to do with foreign commerce and relations. Its authority is mainly confined to its own internal affairs. The social feature involves questions of intellectual and moral development, as well as material; protection against crime and wrong, and fostering educational and charitable institutions. It is incumbent on the state to so regulate the relations of labor and capital that each shall receive its just rewards. These questions will not be wisely dealt with if partizan success is the controlling motive, nor if any considerable percentage of the citizens are neglectful in the discharge of their public duties. The best solution of all political, material and social problems will be wrought when the aggregate judgment of the whole is brought to bear upon them. If politics are left to rings and bosses, the wisest results cannot be expected. Since California became a state there have been before the country national questions of the gravest character. Happily many of them have been permanently settled.

National issues of importance, however, will always exist, and there is a tendency on the part of the people to permit them to overshadow those which are local to the state. Our political duties are dual to the nation and state. Neither should be disregarded. State government is closer to us than the national. It has most to do with business and social affairs, and it imposes the heaviest burden in the way of taxation. In natural resources, in the intelligence and energy of her people, California is equal to the greatest states, and in population and wealth she is destined ere long to rival the foremost. It should be the ambition of every class of our people to make her the peer of the best in the excellence of her government.

MORNING.

BY GERALDINE MEYRICK.

'Tis dawn; The voices of the night are stilled,
The voices of the day have not yet come.
Above, the glory of the stars is dimmed,
A soft gray light is over land and sea.
But even as I look, the sun's flame burns
The East to sudden red; swift golden rays
Shoot upward, bright precursors of the orb
That follows fast. Then, from one small brown bird,
Who sits and sways upon the pine tree's top,
There falls a flood of song, so sweet, so clear,
It seems as if an angel leaned from heaven
And touched his harp; thus sweetly doth he sing,
Till all his mates are wakened, and sing too,
Filling the air with boundless melody.
So is the new day born, midst hymns of praise,
And the sweet incense of most perfect sound.

* * * * * *

Swiftly the scene has changed; the sea that lay
In misty slumber one short minute since,
Now gleams and glistens in the sun's glad light;
And lo! A white sail dances o'er the waves,
Bearing brave fishers, who have toiled since eve,
To home and rest. The hills, that looked before,
Like darker clouds the sun would soon disperse,
Now show their outlines sharp against the sky.

Too soon the birds grow still, and common sounds,
The crow of cocks, the hum of busy bees,
Perchance the gentle lowing of the cows
Calling the sleepy milkers from their beds,
Proclaim the world awake. Night hath flown far
Beyond the seas, and every living thing
Gives welcome to the glory of the day.

SIGNALING MARS.

BY WM. M. PIERSON.

THE possibility of communicating with other planets of our system has been alternately encouraged and discouraged, as scientific minds have by turns regarded the planets as inhabitable or not. It was quite fashionable in scientific circles, in the beginning of the century, to regard the planets and even the sun itself as inhabited. The theory that the moon is inhabited was for a time greatly stimulated in the minds of those who had paid no attention to the facts, and, even by some scientific men, by the publication in 1835 of what turned out to be the greatest scientific hoax of the age, Richard Alton Locke's paper in the New York *Sun* on the pretended revelations of a lunar people by Sir John Herschel's great telescope.

The views of a great many good people on this subject are largely promoted by the belief that all the planets and their satellites, or, as it is more generally expressed, all the countless millions of the stars, could not have been created in vain, and that they must have been created in vain unless made the seats of intelligent races of beings, unmindful of the fact that the finite mind cannot possibly comprehend the purposes of the Infinite, or that it might far more accord with Infinite wisdom that the stream of life should flow on forever, as planet after planet and system after system became fitted for its current, than that all the heavenly bodies should simultaneously bear life, and, relatively speaking, simultaneously decay. The one thought is definitely finite, because astronomy and geology have both demonstrated that life on any planet must have begun and will end at some time. The other is infinite, because the never-ending evolution of matter from the nebula to the life-supporting planet, and thence to its decaying condition of coldness and death, is even now visible, in all its stages, to the scientific eye.

The question in hand must rest, of course, on the fact that a given planet is inhabited, for, if not, any signals which we might make could meet with no response.

Does life exist on any of the planets of our system, or are any of them capable of sustaining life? Here we must discriminate, for we require more than mere life. We must have sentient, intellectual life. For example, the earth was endowed with vegetable life long before it had animal life and animal life long before it had intellectual life. Therefore we are compelled to find a planet whose condition now is the same substantially as that of the earth during, say, the last hundred thousand years or so. Are there any such? Science must say no. Of all the planets in our system, science must say that each of them is either a "has been" or a "will be." Without entering into details which might expand this paper far beyond the dimensions assigned to it, it may be said that the planets are of different sizes and at different distances from the sun. To support life, as we understand life, a certain amount of heat is, among other things, required. The dimensions of the planets and their distances from the sun, are the controlling factors in the question of temperature. An excess of heat will prevent, as well as destroy life. A diminution of heat will destroy it, if it ever existed. The heat may be as well internal as external, but its existence within certain definite extremes is indispensable. Now it may be said with confidence that none of the

planets are in the condition that the earth is with reference to this indispensable element. Some are far too hot, some far too cold. The hot ones are the "will be's," the cold ones the "have beens." Life, doubtless, once existed in some form on the moon. Now the moon is too cold, and life, unless in some low form, has perished from its surface. Life, doubtless, will exist on Jupiter and Saturn. Now they are each too hot.

There are but two of the planets which at all resemble the earth as to heat—Venus and Mars. The former is on the average a third nearer the sun than we are, and is of about the same size; the latter, half as far again, and of little more than half the earth's diameter. Venus receives more heat from the sun than the earth, but is enveloped with a very dense atmosphere which perhaps mitigates its fervor. This circumstance, however, also effectually conceals her surface from the eye, and would prevent communication with her people if she have any. Mars, then, alone presents the possibility of inter-communication, if inhabited, for his surface is visible without serious interception by clouds.

Is Mars inhabited at this time by beings having substantially the intelligence of our race? Probably not. Being half as far again distant from the sun, it receives but a quarter of the heat that we do from that source. His atmosphere is an exceedingly rare one, so rare that the barometer at his surface would mark but five and one-half inches of mercury, as against thirty at the earth's surface—an atmosphere as light as that which would be found at an elevation of ten miles above the earth's surface. Life such as we conceive it, could not exist under these conditions. Mars is one of the "has beens." Being but one-fourth of the volume of the earth, it cooled much more rapidly, and has doubtless passed the life stage and is now decaying to the condition of the moon.

But the discussion of the question under consideration requires certain assumptions, if it is to be discussed at all; and violent as they must be, let us assume that Mars is inhabited; that its inhabitants are equal to us in intelligence; that they have vision like ours, telescopes like ours, and observers who reason on the same lines and from similar premises, and who desire to make themselves known to us. Is intelligible communication possible?

At intervals of fifteen years and two years, and again fifteen years and two years, the earth and Mars approach each other to within a distance of about thirty-five millions of miles. These are their closest approaches to each other, and are called the near oppositions—an opposition being the position when the sun, the earth and a planet exterior to the earth are in the same line. There is an opposition of Mars every seven hundred and eighty days, or every two years and fifty days, but the distance between the two planets varies from thirty-five millions of miles, at a near opposition, to sixty-three millions, in a far one, owing to the fact that the orbit of Mars is not a circle but a very eccentric ellipse. That planet, therefore, at all oppositions except the close ones mentioned, is far more distant from us than at his near approaches. One of these near oppositions occurred in August of this year, the next will take place in October, 1894, and then there will be none until 1909 and 1911.

It would seem quite obvious that if any signaling could be accomplished it would be most feasible at these close oppositions. But is this so? The reader will observe that the earth is between Mars and the sun, and at opposition the earth would, therefore, be quite lost in the sun's rays as seen from Mars. It would be in the same situation as Venus is to us when the earth, Venus and the sun are in the same line, or as our moon is when it is new—not the new moon, as we call it, when it is a couple of days old, but when really new and passing between us and the sun. In other words, the

dark or night side of the earth would be presented to Mars on those occations, and then very indistinctly even in telescopes, because of the great splendor of the sun's light.

Now, the conditions as to Mars would be exactly reversed. We would only see the day or illuminated side of Mars, as, indeed, with the modifications hereafter alluded to, it is all we ever do see. So that signaling at these times, when the two planets are so comparatively near to each other, would seem to be out of the question unless we assume that some signal made from our dark or night side could or would be responded to from his light or day side, which is highly improbable.

It may be taken for granted, therefore, that at opposition—and this may be said both of a far or near opposition—the conditions would be so totally dissimilar that communication would be practically impossible; for it would seem that the first essential of a signal between two planets should be that it be made and responded to in kind—*i. e.*, a day signal calling for a day signal response, or a night signal with a night signal reply. As at all oppositions the earth presents her night side to Mars' day side, this would be impossible.

To secure these indispensable conditions, we are compelled greatly to increase the difficulty of communication. The Martian can see a portion of our night side, and we can see a portion of Mars' night side, at what is called the quadrature; that is, when Mars is in such a position that the lines joining the sun, earth and Mars form a right angle; or when Mars is in the same relative position that the moon is at her first quarter. Owing, however, to the fact that the orbit of Mars is far beyond us, much less than one-half his night side is visible to us. But to the Martian the earth would appear like the moon at first quarter—half illuminated. At these points, then, which are reached before and after opposition, we have a condition in which the inhabitants of both planets could, with their telescopes, see a portion of the night and a portion of the day side of the other planet. But the difficulty spoken of lies in the fact that the nearest distance of the two planets, when Mars is in quadrature, is about one hundred and twenty millions of miles, or more than three times the distance of a near, and twice that of a far opposition. Only the astronomer can fully realize how this increase of distance intensifies the difficulties of observation.

Are day signals, or signals from the illuminated or day sides of the two planets, practicable? An eminent French Astronomer has suggested that geometrical figures might be constructed on the earth of sufficient dimensions to be visible with powerful telescopes from Mars, and that as we are assuming that there are astronomers on Mars, the geometrical relations of the angle or circle would be significant to them, and would be responded to by them by similar constructions. This suggestion, of course, implies some structures or works which would be visible on the illuminated or day portion of the earth. Indeed, the idea arose out of the discovery by Professor Schiapparelli, of Milan, of certain curious lines on the surface of Mars which he unfortunately termed "canals," and it was conceived by M. Flammarion that these "canals" were, perhaps, intended by the Martian scientists as signals to us Terrenes. But while we can readily perceive the markings on the illuminated hemisphere of Mars, no object on the surface of the earth, however large, could probably be seen from Mars while that portion of the earth's surface was illuminated by the sun's rays. Aside from fogs and clouds, which effectually conceal the surface from external view, a moment's consideration will demonstrate that the atmosphere itself, when illuminated by the sun's rays, must have the same effect even when there are no clouds. We see no stars with the naked eye in the day time, and yet they are shining as well by day as by night.

True, we are able to see a star or the more brilliant planets in the day time through telescopes, but the view is of the most hazy character by reason of the sun's illumination and the refracting power of the air. Long after the sun has completely set, it still lightens the atmosphere; that is our twilight. Were the atmosphere entirely removed we would see the stars at mid day, and the sun would shine from an absolutely black background. The effect, then, of our atmosphere is to transform this intensely black vault of heaven into the azure of the noon-day sky. That being the effect in looking outwards, it must have the same effect on looking inwards, for in both cases the eye has to penetrate the same atmosphere, illuminated in the same way. If we cannot see a star at mid day, looking outwards, how could we see the surface of the earth at mid day, looking inwards? Such we conceive to be the reason why we can discover none but the most dubious and uncertain markings on the surface of Venus, for we are attempting to pierce her atmosphere, probably not unlike ours, while illumined by the sun.

But even were this not so, the construction of geometrical figures on the earth of sufficient size to be seen and interpreted at a distance of one hundred and twenty millions of miles, or even at half that distance, would involve such a colossal expenditure of labor and money as to render it simply chimerical. Could the earth's surface be seen at all from Mars (which, as we have seen, is impossible), the Martian could discern only objects of the same dimensions as those we can detect on Mars' surface. By the greatest telescopic power and under the most favorable conditions, and at near oppositions, when Mars is within say forty millions of miles, we do obtain fugitive glimpses of lines on his surface, but the narrowest observable are at least sixty miles in width. These lines, which, as has been said, have been denominated "canals" (probably for the reason that they appear to be straight), extend at different portions of the surface a distance of a thousand or more miles in some instances. It is because they are lines, and long ones, that we discern them at all. A square of sixty miles on Mars' surface could not possibly be seen at Mars' distance. Being darker than the surface of the planet, these lines are assumed to be bodies of water. Now, the absurdity of constructing a geometrical figure in this way, or even a straight canal on the earth's surface, of sixty miles in width and a thousand or even five hundred miles long, as a signal to another planet, is apparent from the statement. It would require the engineering genius of the entire earth and the labor of a nation for scores of years, and then it could accomplish nothing, for the obvious reason that a *permanent* work of that kind, of whatever form, would signify nothing to the Martian. It would indicate nothing more than would the outline of the continents of North and South America, or the Atlantic Ocean, or any other permanent marking on our planet. And if we sought to obviate this difficulty by filling up our canal, and digging another of a different form or in a different direction, the absurdity becomes still more apparent, for centuries must elapse before such changes could be either effected by us or noticed by the Martian observer.

Even could we "move mountains" into geometrical forms, it would still be idle. Neither the Rocky Mountains, the Andes nor the Himalayan ranges could possibly be seen at Mars' distance. We observe the details of our moon's surface, not by looking at the illuminated portion of her disc, but at the shadows cast by her mountains and crags at what is called the "terminator," or dividing line, between light and darkness at sunset or sunrise on her surface. Had we, like the moon, no atmosphere, the shadows cast at sunset and sunrise by these lofty ranges of mountains might be indistinctly visible at Mars, but we

have an atmosphere, and that renders them invisible. Besides all which, the rearrangement of the mountain system of the earth for signaling purposes is at present a little beyond our engineering skill.

The only remaining method would be signaling from the dark or night side of the planets. Here some large assumptions must be made. Have the Martians the means of constructing illuminating signals? Fire may be unknown to them, and unnecessary to their habitat. Their atmosphere may be unable to support combustion; but fire alone would be unavailing as a signal either there or here, for we must recollect that we looking at Mars, or the Martians at us, are looking down. We see Mars as from a baloon, above his surface, and so with the Martian looking at the earth. Therefore any fires, even if they could be maintained of sufficient magnitude to be visible at the enormous distance, would be rendered wholly invisible by the smoke which would rise and spread over them like a canopy.

The electric light, if employed on an enormously large scale, could furnish a sufficient signal, but here again we must assume that our Martian neighbors have rivaled us in the domain of electricity, or are in the possession of some equally powerful illuminant. And if so, what then?

When we come to consider the lighting power required for such an experiment, the problem becomes appalling. We have a guide in this matter which is tolerably reliable. Mars has two satellites, discovered in 1877. One is about ten miles, the other about twenty miles in diameter. It takes the power of great telescopes even at near oppositions to discern them. If a light could be flashed from the dark side of the earth, and from that portion of the dark side of Mars visible to us at Mars' quadrature, of equal power to the light of the smaller satellite Phobos, it might be visible in powerful telescopes to the denizens of each planet. But what does this imply?

In the first place, the electric arc light would have to be reconstructed in some manner so as to permit the arc to be seen from above; for as now constructed, the hood which covers it, and which contains the mechanism for keeping the carbons in position, would conceal the arc from view from overhead. By having the carbons moved horizontally instead of vertically, the arc could be viewed both from below and above.

In the second place, it would require electric arc lights of at least twenty-thousand candle power, each to be placed at distances of ten feet apart on an area of at least ten miles square, to furnish light sufficient to be discerned at Mars, even with powerful telescopes; and then it could only be seen as a brilliant point of light. If flashed according to some formula such as our lighthouses are operated by, it might attract attention, and be responded to by our Martian friends, if they have similar facilities for gratifying our curiosity.

But the twenty-thousand candle power arc light referred to is not the twenty-thousand candle power arc light of commerce. We are advised by an expert electrician that through a mistake in measuring the photometric power of the electric arc, when the light first became prominent (a mistake which, perhaps for commercial reasons has never been corrected) the so-called twenty-thousand candle power light really gives the illumination of only seven thousand candles. To produce a seven-thousand candle power requires a force equal to eight and a half horse power, and therefore, each twenty-thousand candle power light would require more than twenty-four horse power per light.

For a field of ten miles square there would be required, if placed ten feet apart, twenty-seven million eight hundred and seventy-eight thousand four hundred lights. The horse power, therefore, required to furnish

the light would be that number of lights multiplied by twenty-four, or six hundred and sixty-nine million eighty-one thousand and six hundred horse power. As the entire estimated horse power of the world is only three hundred and ninety-four million, we fear that this method of signaling our Martian friends must temporarily be postponed.

But it is hardly worth while to stop here, considering how grand the assumptions which we have been indulging in; and therefore, let us suppose the apparatus complete, the question arises as to what we are to signal. The construction of geometrical figures could be adopted, it is true, but if the ten-mile square of illumination, which we have referred to, would only represent a point of light at Mars' distance, the construction of long lines of illumination such as would be necessary to represent an angle or a circle, with each line ten miles in width, would require an enormous expansion of the project.

The principal object to be attained is to demonstrate to the Martian that the illumination proceeds from design, and is not a physical and natural phenomena. For example, if we perceived for a number of years a spark of light on the surface of the moon, we would not suppose that the light proceeded from design or was artificial, but that it represented some volcanic action or possible reflection of the sun's rays. If, however, it was intermittent, flashed according to some regular sequence or rhythm, we might suppose it to be regulated by human action and intended for communication with us.

There is one signal that might be intelligible to the Martian, and that is an indication of our and his relative position in the solar system. With the exceedingly attenuated atmosphere of Mars, the astronomer there can easily see the planet Mercury, and therefore understands that the earth is third and his own planet fourth in distance from the sun. He has also learned that we have one moon and his own planet two. Signals, therefore, which would flash out "three-two," and then, after an interval, "four-three," and then be repeated in the same order, might indicate to him that we, as the third in the order of the planets from the sun, with two bodies, recognized that Mars was the fourth in order with three bodies. Such a signal might be recognized as proceeding from design, and if responded to appropriately, would assure us that Mars was inhabited and by an intellectual race.

When we consider, however, the instability of the premises on which all these conclusions are based, and the colossal expenditure required to insure the success of our end of the experiment, we apprehend that our curiosity on this subject will not speedily be gratified. Our Chicago friends seem to be equal to almost any occasion, and perhaps the project would commend itself to their sublime confidence.

AN EPISODE AT FIDDLERS'.

BY GEORGE CHARLES BROOKE.

FIDDLERS was excited, not that there was anything extraordinary in that for the Flat was in a normal condition of excitement over one thing or another every hour in the day and vented it in much drinking, loud talking and fighting, but on this particular occasion the excitement was of a unique order, that in its still intensity chilled and silenced the mob of men that crowded in and close about the doors of the "Mary's Eyes" Saloon and gambling house, the proprietor of which, Velvet Jack, was at that moment being tried for his life before that most terrible of earthly courts, Judge Lynch.

It was not the first killing at the Flat, this shooting scrape was only one of dozens of others during the five months of Fiddlers existence, but the victim was a peculiarly inoffensive creature known as "Mud" to the camp. He had no other name that they knew of and had earned his soubriquet by his unfailing ill luck at the gaming tables, and his equally unfailing remark as he rose penniless from his bout with the tiger, "Wal, my name's mud, agin," but on this particular occasion Mud's luck had run his way and he had sat hour after hour at the little oblong faro table since the night before and won with unfailing regularity through every deal.

Velvet himself had the shift at deal when Mud had won the last ounce in the "bank roll," and as the lucky player rose from his seat opposite him, the gambler had, without a word, shot him through the heart. The cold fiendishness of the act was too much for the nerves even of Fiddlers and the camp rose to a man and cried aloud for vengeance. They were waiting now for the sentence. Long Smith was the judge. He occupied a chair placed on a faro table at one end of the long, narrow cabin, the identical chair that Velvet sat in when he shot Mud. Velvet sat a little to his left, a guard at either side, on his right, the hastily chosen jury of twelve sat or stood, and beyond a rope stretched across the room, was the silent, expectant crowd. The evidence was all in and Long Smith was settling himself down into a comfortable position to listen to counsel for defense, when Velvet suddenly rose to his feet and said: "See here, boys, what's the use of going on with this monkey business any longer? I shot Mud and you've determined that I must hang. Can't you drop this and take me out and hang me and be done with it instead of torturing me with all this —— nonsense. You know you're only doing it to amuse yourselves?" The eyes of every man in the crowd were fixed on the prisoner during this speech, then turned expectantly to the judge. "Prisner et the bar, yer bein' tried fer murder by the only kin' 'o er co't this yer kentry hez. Ef ther's enythin' ye hev ter say yer'll hev er chance ter say it furder on." There was a murmur of approval from the audience and counsel for the defense went on with his argument, followed by the counsel for the prosecution. The court summed up and charged the jury, which, without a moment's hesitation returned a verdict of guilty.

The judge arose from his chair and said: "Velvet, yer gone in," there was no further assumption of judicial dignity; it dropped from him as one drops a cloak from his shoulders, "ther boys hev giv' yer a squar deal, which 's more 'n ye giv' Mud, 'n yer'll hev ter go under. What hev yer got

ter say agin it?" Velvet smiled and shook his head. "You've got the drop on me, I reckon," he said, "and I can't kick." Just at this moment there was a struggle as of some one trying to force an entrance through the crowd at the door, and the shrill tones of a woman's voice could be heard demanding access to the court, that was trying the man that had killed her's. "I'm Mud's wife," she insisted in shrill, shaky voice. "O, I know what yer nicknamed him. His 'n my name 's Dobbs, 'n he were er good nuff man most ways 'n I want ter see ther man what killed hin 'n lef' me ar lone widder rite in the prime er life." The relict of the late Mud was at the bar of the court by this time. She was a tall, angular woman of forty or so, dressed in rusty black, with an immense calico sunbonnet that projected over her face like a section of stovepipe and effectually concealed her features. The eyes were bright and keen though, and swept quick glances from prisoner to judge and jury.

The court ordered a chair for her inside the bar, and when she had seated herself remarked to her, "We never knowd ef Mud were a mar'd man, marm; ef we had, we'd shorly hev waited this trial for ye."

"D' yer mean to say yer've gorn 'n tried this yer man for killin' mine, 'n me not here ter see? Yer a nice kin 'o er judge, I mus' say. Wal, yer kin jest go ter tryin' 'm rite over again, now I am yere," and the widow settled comfortably back in her chair and took a dip of snuff. The court, counsel, jury and spectators were melted in a moment. They were Missourians, almost to a man, and the "one touch of nature" that snuff dip awoke in them made them the widow's slaves for the moment. The court, counsel and jury consulted for a few moments, and the judge intimated to the widow that they had concluded that her request was a very natural, and under the circumstances, a very proper one, and that with the prisoner's consent they would comply with it, but as he had already been tried and found guilty once, they thought it hardly fair to him to try him again without his consent. Velvet arose, the eyes of the throng upon him. He was a tall, slight, graceful fellow, with a certain devil-may-care swagger about him that insensibly attracted men and women alike, and with a smile that showed his white teeth under the black moustache, remarked that he was always delighted to please a lady, but that under the circumstances he could not see anything to be gained by it. He had, in fact, plead guilty in the first place, and all that remained for the judge was to pass sentence; but as they had insisted upon trying him once to please themselves, they might as well try him again to please the lady. There was a murmur of approval at this sentiment from the audience, which was sternly checked by the court. The widow had been dipping snuff and eyeing Velvet during his and the court's remarks, and seemed to have made up her mind to something she had been considering, for she suddenly closed her snuff-box with a click, rose from her chair, and turning to the court said: "Jedge, I'm the person what's bin most hurt in this yer scrap. I'm lef' a lone woman with nary man ter provide fer me, an' I've been er thinkin' ther best way out o' this yer biznis is fer this man what kilt my man ter git me er new one." She stopped amid a death-like silence. Velvet was the only man that preserved his customary unruffled composure. Every other face wore an expression of horrified astonishment for a moment, and then a yell of delight went up from the crowd. The cool effrontery of the woman had caught their sense of the fitness of things. Here in a country where a woman most needed a man's protection, her man had been taken from her. What more just than that the man who had caused his taking off should replace him? The racket

subsiding, the court gravely arose and said: "Prisner at the bar, yer hev bin tried 'n foun' guilty of murder. Hev yer anythin' ter say why ther sentence in thish yer co'te should not be past 'pon yer?" Velvet shook his head smilingly and the court continued: "Ther sentence in ther co'te is, thet yer shall marry this yer woman 'n the co'te, ez a jestice will tie yer up right now." At this there was a yell that fairly shook the roof, and the audience rushed inside the bar to shake hands with the prospective bride and groom and offer congratulations; but the bride had something else to say first. "Jedge," she shrilled, "I've bin tell'd thet Mud win'd a consid'ble et gamblin' last night 'n I want ther money."

The coin and dust had been impounded by the court, and he reluctantly turned it over to the widow. After looking it over, she stowed it away in a voluminous pocket and announced her readiness for the ceremony. The counsel for the prosecution and defense acted as groomsmen, a couple of "ladies" from the "hurdy-gurdy" next door as bridesmaids, and the foreman of the jury gave away the bride.

Surely such another wedding was never seen. The festivities lasted until Fiddlers was completely exhausted; and when a couple of days later the Flat recovered from its carouse, Velvet and his bride had disappeared.

* * * * *

A few days later a tall, swaggering, black-moustached man, accompanied by a woman dressed in rusty black, with an immense sunbonnet covering her head and face, stood on the deck of a Panama steamer making its way down San Francisco bay towards the Gate. They were at the rail gazing at the fast-receding city. Suddenly the man snatched the sunbonnet from the woman's head and whirled it overboard, and as it floated astern said: "Good-bye to the Widow Mud, and now, old girl, we can be comfortable again. The old bonnet served its turn, and served it well, but I can't look down two miles of stovepipe every time I want to see your pretty face."

TOO LATE.

BY EMMA PLAYTER SEABURY.

We said goodbye, in your dear eyes were tears,
  Each knew betwixt our souls, a shadow lay,
  I longed to take you in my arms, and pray
That the fond love of all the vanished years,
Should kiss away the doubts, the pains, the fears,
  But you were silent, and I would not say
  One word, pride said "some other day,"
And now your love, your life, all disappears.

And you are dead, my darling, the unknown,
  That all forgiving, I shall ne'er forget;
    What hurt so deeply, you could so wound me;
Lies twixt our souls forever, all our own
  Mocking the misery of vain regret,
    And grief sobs on as endless as the sea.

THE ELECTION OF JAMES A. GARFIELD.

No. II.

BY EX-GOVERNOR LIONEL A. SHELDON.

GENERAL GARFIELD had no taste for political manipulation, and if he had any talent for it, he had had no occasion to employ it. He represented a district which is mentioned by Mr. Bryce, in his American Commonwealth, as an oasis in the desert of political uncertainty, fraud and corruption, a district represented successively by Elisha Whittlesy for twenty years, by Joshua R. Giddings for the same length of time, and by Garfield himself for eighteen years, with a single intervention of four years. The people of that district have always been distinguished for their adherence to convictions, and for fidelity to a man who served them acceptably. He was always nominated and elected without a resort to humbug or tricks, and no man was left so free to devote himself to work for the whole country. This district had few special wants, and the field was open to him to become a statesman, a publicist, and the more he towered in the work of promoting the greatness of the country, the more closely his constituents clung to him. He was elected to the Senate without a particle of scheming; the people chose a Legislature, practically instructed to make him senator. At one time in Rome it was a common saying that Cato was the ablest, and Nasica was the best senator. In choosing Garfield senator, the people of Ohio believed that he combined the elements of both a Cato and a Nasica.

As I was to accompany him to Ohio from Chicago, I met him at the depot the morning after his nomination. He was serious, instead of buoyant as was his wont. He said he had spent a good deal of the night in looking over the ground and calculating the chances of success, that he had made hundreds of speeches in Congress on the stump and elsewhere, on all kinds of subjects; and he could not remember all he had said, and wondered if he had said anything which might be seized upon to his injury, but that he was unable to call anything to mind that would do him harm. He further said that he had always advocated what he believed was right, regardless of personal consequences, but that there was a disposition in the heat of a political contest to distort and misrepresent. I asked: "Do you doubt that you will be elected?" He replied that he feared he might not be. I said: "You will be elected," and he asked why I thought so. My answer was that the Convention seemed well satisfied with the nominations, and in fact that nearly all were relieved, after a contest so spirited and protracted; that he had been a lifelong Republican, had gained a reputation for ability and courage as a soldier, and that he had achieved great distinction in the popular branch of Congress. There was no reason why he should not be elected, and that his friends would see that all honorable means were employed to secure his success.

The whole country along the line of the railroad over which he passed was advised as to the coming of the train which bore him to Ohio. Large numbers assembled at all the stations, and wherever the train stopped, he made a speech and there was displayed the utmost enthusiasm. His little speeches were models, and his serious and unpretentious manner made a

most favorable impression. The old soldiers were out in great numbers, and as a large number of them served in the army of the Cumberland, in which he served as department chief of staff, they applauded him vociferously. One man put up his hand and said: "The last time I saw you, General, was when you rode through a storm of bullets from General Rosecrans to General Thomas."

The general practice had been for presidential candidates to content themselves with addressing the people through a letter of acceptance. General William Henry Harrison made a few speeches, John P. Hale stumped the country in his own behalf, General Scott made a tour to Blue Lick, and said some things damaging to his cause, and Horatio Seymour made a few speeches. General Garfield broke over all precedents. He early went to New York and made speeches on the way and in the city. He impressed himself so favorably upon popular audiences that Murat Halstead, who had not been friendly and who accompanied him, urged General Garfield to take the stump generally. He considered the matter, but concluded not to do so. It soon became apparent that he would be called upon by committees, delegations and considerable bodies of people for an expression of his views upon a great variety of subjects. He said to the writer that this gave him a good deal of trouble, but he argued if he declined to express himself it would be construed as a dodging of issues, and that as he had always been in the habit of speaking his honest sentiments, it was but right and good policy to make known his views whenever called upon. He added that he made an effort to find out on what subject he was to be called out, but many times he was unable to, and that often what he said was entirely impromptu. The success of this method of campaigning is likely to become a common practice. His speeches daily gained him votes. After the election, Senator Hoar wrote him a letter of congratulation, and said that if he had known at the beginning of the campaign that he was to make speeches on all manner of subjects presented to him, he would have despaired of his election, but that Benjamin Franklin could not have acquitted himself better. It was a method adopted by General Harrison in 1888 with so much success. It is an excellent practice, for the people thereby become thoroughly advised of a candidate's views, and are able to determine whether they are being treated to dishes of ambiguity and demagoguism. A political campaign should be one of education; full and frank discussion enlightens all around, and is a barrier against misapprehension and deception.

The situation in New York was for a time a source of anxiety. Mr. Conkling, who was potential with the stalwarts of that state, sulked for two or three months. He had gone out of the Chicago Convention discomfited, and was greatly enraged at the bolters in that state from the unit rule, and because they had gone from Blaine to Garfield. If the Grant line had been forced to give way, and had gone to Garfield, the case would have been different. He and Mr. Arthur had been a long time personal and political friends, and through his and General Grant's influence he was at last induced to take the stump. Next to Garfield's own efforts, those of General Grant were most effective. He was a patriot and devoid of all refractory feeling. He was not an orator, and in that campaign he took the stump—the first and only time. There were an eloquence and an effectiveness in his simplicity and clearness beyond anything the most trained elocutionist could produce. The rural districts rallied to the support of Garfield beyond anything experienced since the days of Lincoln. He made a profound impression on the intelligent and cultured men of the nation. The English press called him the Gladstone of America. But his election was con-

tested with more than usual energy by the Democratic party. His nomination by the Republicans forced that of Hancock by the Democrats, that soldier might be pitted against soldier. While the latter was the greater soldier, he was not to be compared to Garfield in any other respect. Garfield stood high as a legislator, and had studied the whole range of public questions profoundly. His speeches in Congress constituted an encyclopedia of fact and sound principle on all the great questions that had been before the country during twenty years of its most eventful period. His political opponents were unsparing in vilification, and they even resorted to new and unprecedented methods to compass his defeat. The infamous Morey letter was a disgrace to American politics. It had no effect, however, except on the Pacific Coast, where its influence could not be counteracted for want of time. The people in Northern Ohio, where he was born and spent his life, gave him an indorsement never given to any other candidate. His neighbors knew him and believed in him.

To General Garfield the work during the campaign was most arduous, and no man ever more keenly felt the responsibilities of his position. When the election was over, there was a period of relaxation, but it was of short duration. He almost immediately gave attention to the work before him. His nature and habit were to do everything thoroughly and well. Never did president-elect make a more thorough study of the surroundings and doings of his predecessors. I was frequently at his house, and several times he was at mine. He carefully re-read the inaugural addresses of his nineteen predecessors, and informed himself as to their troubles in forming a Cabinet. It was almost a relief that others had experienced the difficulties that surrounded him. He several times cited the case of Franklin Pierce, who was complained of for delay in selecting a Cabinet. A friend said to him a Cabinet ought to be made in a week. Pierce replied that if he would make a Cabinet in a week that was satisfactory to himself, he would adopt and appoint it. The friend tried it and gave it up. As the nation has grown, the difficulties in making a Cabinet have increased, because there is a wider range of interests and a greater number of able and deserving men. It was his idea that as far as possible all sections and interests should be recognized. He did not approve the giving of a Cabinet place to a man from the President's own state. Two Ohio men were urged who were strong with him, but he said, "I represent Ohio in the Cabinet, and the state must be satisfied with me." He was pressed to give liberally to the volunteer soldiers. No man was a better friend to them, but he thought that by putting Mr. Lincoln at the head of the War Department, who was a volunteer, and that, as he was at the head of the Cabinet by virtue of his office, it was as much as they should ask for in the councils of the nation.

The making of a Cabinet involves consideration of appointments to the principal foreign missions and to what are termed secondary places, such as assistant secretaries and heads of bureaus, so that distribution may as fairly as possible respect localities and the merits and deserts of individuals. General Garfield made a careful study of all these matters, but in all directions he found conflicts of opinions and interests. Republicans had been divided most pointedly in the Convention and in the country over the candidacies of Grant and Blaine. It had become bitter in some localities, and more especially in New York, where the factions were designated as stalwarts and half-breeds. It was a division that had its ramifications throughout the nation. There was also a so-called liberal or reform element which had supported Garfield with zeal, which contributed, in no small degree, to his election. There is no

doubt that so far as New York was concerned, the tremendous energy of the stalwarts, who were inspired by General Grant and General Arthur, were the largest factor in giving that state to him.

One of the questions was what was to be done with the South? On purely political grounds it was entitled to no consideration, for the electoral votes of that section had been cast solidly for the Democratic candidate, but it was an important part of the nation whose interests for partizan reasons, should not be disregarded. It was also wise that it should be treated with magnanimity. President Hayes had appointed a Southern Democrat Postmaster-General, and had been liberal if not profuse in appointing Democrats to local offices. This policy had no effect except to excite derision, and to cause the charge to be made that the appointments were in the nature of bribes to those thus favored, with intent to disrupt the Southern Democracy. It weakened rather than strengthened the Southern Republicans. It was thought unwise to make a selection from the "carpet-bag" class. Hence General Garfield decided to take a native Southern loyalist and Republican. It was not easy to find a satisfactory one.

Quite a number of names were canvassed, but to some there were serious personal objections, and to others there was decided opposition from their own localities by the Republicans. I was present when, two or three days before the inauguration, the navy portfolio was offered to Mr. William H. Hunt of New Orleans. I had known Mr. Hunt intimately for fifteen years. He was a native of Charleston, South Carolina, but had lived in New Orleans from boyhood. All his brothers were distinguished in the learned professions, and one of them in ante-bellum politics in Louisiana. He was an able lawyer, an orator of no mean power, with high social standing, was loyal during the war, and a Republican thereafter. Mr. Hayes had appointed him Judge of the Court of Claims. Mr. Hunt had little political knowledge or influence, but his selection would show to the South that it was not to be ignored, and that the Northern Republicans appreciated those to the "manner born," who had stood by the country in its perils, or by the cause of freedom during the troublesome period of reconstruction. Mr. McVeagh was regarded as a proper representative of the liberal or reform element, which had recently shown such strength in the city of Philadelphia, but his selection was not approvingly received by the great body of the Pennsylvania Republicans. Senator Cameron was consulted about it; he said to General Garfield that Mr. McVeagh was his attorney, personal friend and brother-in-law; that he was an able lawyer and an honest man, but in politics he was foolish, "and he thinks that politically I am the same."

The filling of the Treasury Department gave a great deal of trouble. It has been charged that General Garfield, during the campaign, promised it to Mr. Levi P. Morton, of New York, and at the request of the representative stalwarts of that state. If he made that promise it could not be kept. President Grant nominated Mr. A. T. Stuart to that department, but it was discovered that he was ineligible, and the same thing happened in the case of Mr. Morton. He was ineligible — a fact not known, and overlooked until after the election; and if there had been a promise, he made the amende honorable, for he appointed him Minister to France. General Harrison, of Indiana, was sounded on the subject, and General Garfield desired to give him the place, but he preferred the senatorship which was to be conferred upon him. Mr. Allison was favorably considered, and he could have had the place, but he was disinclined to leave the senate. Judge Folger, of New York, was urged, but not until it had been determined to fill another department with a New York man. Mr. James

had acted with the stalwarts in that state, and for several years had been postmaster of the City of New York. His services had been acceptable to the people of that city in that capacity, and he was commended in the highest terms by the newspapers, without distinction of party, but for some reason his selection displeased Mr. Conkling. Several names were also considered in connection with the Interior Department. When General Garfield left home for Washington, but four names had been fixed upon in his mind for Cabinet positions. They were Messrs. Blaine, James, Lincoln and McVeagh. Mr. Lincoln's acceptance, by reason of his absence from home, was not received till after General Garfield arrived in Washington. When Mr. Windom was decided upon for the treasury portfolio, Mr. Kirkwood's selection for the Interior at once followed, and also that of Mr. Hunt for the navy. There was some delay in making up the list, out of deference to Indiana, which had so splendidly set the wheels of victory in motion at the October election. It was designed that that state should have a place in the Cabinet, but there were numerous aspirants, and there was no agreement as to the one who should receive an appointment, until after the Cabinet had been made up and the names sent to the senate. The Cabinet fairly represented the several elements of the party. Mr. Lincoln and Mr. James had favored the nomination of Grant, Mr. Windom and Mr. Kirkwood were of the stalwart order of Republicans, and Mr. Hunt had made no expression of his views, being on the bench. There was no doubt of the proclivities of Mr. Blaine as to the candidate of his choice before the Chicago Convention. Mr. McVeagh probably took no part, but evidently favored the most liberal candidate. So far as political complexion was concerned, the stalwarts had no reason to complain.

(*To be Continued.*)

THREE MYSTERIES.

BY ALICE I. EATON.

A glimmer in the sky; a shooting star;
A soul is born on earth; a spark of the
Love that reigns in Heaven in human hearts
Is kindled. The great mystery of life
Begins again. Shall it unfold itself
In things unspeakable, sublime? Or shall
It veil itself in mystery and sin,
Until the darker mystery of death
Shall end it all? Ah! birth's a mystery,
And stranger still is death; but most of all
Does mystery lurk in that which men call life,
The sea that rolls between two unknown shores,
Touching on each, yet silent as to both.

Albany, N. Y.

THE PRE-COLUMBIANS OF THE MISSISSIPPI VALLEY.

BY JAMES M. CARSON.

THE relics discovered in this great field of ceramic products known as the pottery of the Mississippi Valley are divided by Mr. William H. Holmes, of the Bureau of Ethnology, Smithsonian Institution, into three groups, namely, those found in the Upper, Middle and Lower Mississippi Provinces, which latter he also calls the Gulf Province. The Middle Mississippi has hitherto proved the most prolific in ancient pottery, and from that area the greater portion of collections have been made. To that region we shall confine ourselves in the present article.

This earthenware is exceedingly fragile—so much so that the opinion has been expressed that a considerable portion of it was merely sun-baked. There is no doubt that the period during which it was produced was one of open-air baking, a fact which will account for the imperfect fire-hardening process. We are indebted to the practice of burying articles with the dead, prevalent among all peoples, for supplying us with the means of procuring many whole specimens of this fragile ware, which has been unearthed from burial grounds and mounds in great quantities, while at the same time refuse heaps on house and village sites have furnished the archæologist with a large amount of fragmentary pottery.

The Middle Mississippi Province is very extensive, and the area in which relics of this group of pottery are found embraces the greater part of the states of Missouri, Arkansas and Tennessee, large portions of Mississippi, Kentucky and Illinois, and extends into Iowa, Indiana, Alabama, Louisiana and Texas. The types are better marked, and the products more abundant about the center of this area, which includes those parts of Missouri, Arkansas and Tennessee that are contiguous, Pecan Point, Arkansas, being a marked focus as regards abundance of relics.

In this province the pottery is remarkably homogeneous in character, which points to the fact that the people who practiced the art formed an ethnological group of closely allied tribes. Though not of the same race as the builders of the mounds in Wisconsin, Ohio or Georgia, they were, nevertheless, undoubtedly "mound builders."

In very primitive times, all vessels were intended for domestic use, including the ordinary receptacles for food and drink, and a few simple utensils employed for cooking purposes. Form, as these uses differentiated, underwent many changes, and a great variety of different shaped vessels was produced, only a small percentage of the relics found showing indications of having been used over fire.

Neither wheel nor lathe was used in construction. At the advent of the whites the natives were observed to employ the *coiling* process, and models made of gourds, blocks of wood and hardened clay. Probably in many cases no mold was used, but a rounded object of small size was held in one hand, while the base of the vessel to be formed was worked over it with the other. Rounded pebbles or mushroom objects in clay, sometimes found in the mounds, would have served the purpose. Baskets, nets and coarse cloths were also used as molds. The finishing was accomplished by means of such

implements as trowels, paddles, polishing stones, etc. In all probability the work was performed by women, among whom were skilled potters.

The material used in the manufacture was clay, in all grades of refinement, tempered with pulverized shells and potsherds, the former being obtained from the neighboring rivers.

Fig. 1—Bowl imitating a modified Conch Shell.

Sand was also used as a tempering ingredient. The clay was procured from the alluvial deposits of bayous. There were two marked varieties of clay as regards color, viz., a dark and a light hued kind. The more prevailing color of the paste was dark, ranging from rich black to all shades of brown and gray. The lighter tints were usually warm ochery grays, rarely approaching a reddish hue, and there is some reason to conjecture that the different shades of color were produced intentionally by some process by which any tint could be obtained, inasmuch as certain forms are generally dark and others universally light. Sometimes a coat or wash of very fine clay was laid on the surfaces of the vessels, the walls of which were often thick and uneven.

In this Middle Mississippi ware there is a marvelous variety of form, many shapes being very pleasing and not inferior in outline and elegance to those exhibited in the ancient Pueblo pottery, though ranking lower than those of Mexico, Central America and Peru. They are higher in rank, however, than the prehistoric wares of Central and Northern Europe. The finish of this ware is decidedly rude as compared with that of civilized nations, the surface being often only smoothed with the hand, or trowel, though generally more or less careful polishing was performed with implements of shells, bone, etc. No glaze has yet been found on the more ancient specimens, though to facilitate polishing, a film of fine clay, as mentioned above, was sometimes spread over the surface. In many instances a coat of thick red ocher was applied.

The ancient potter of this province evidently took pride in the ornamentation of her wares, and produced a very varied and interesting number of designs. Fanciful modifications of natural forms constitute the first stage of embellishment, followed successively by relief ornaments, intaglio figures and designs in color. The modifications of shape, as exhibited in the wares of the ancient people of the Middle Mississippi region, indicate that the potters had no very refined ideas of elegance of outline. Nevertheless, the simple forms of cups, pots and bowls did not satisfy them, and there are specimens that indicate a taste for higher types of beauty. There is, moreover, a marked tendency to the grotesque. Utility was often sacrificed to the suggestions of fancy, and convenience was disregarded in yielding to the inclination to fashion bowls, vases

Fig. 2—Frog-shaped Bowl, Craigshead Point, Arkansas.

and bottles into animal and vegetable shapes.

Relief ornamentation, sparingly employed by the Pueblo Indian potters, is much more frequently found in the Middle Mississippi group, and was worked out in both low and salient relief by the application of nodes and

fillets of clay to the plain surface of the vessel—the fillets being laid on in

Fig. 3—Frog-shaped Bowl, Pecan Point, Arkansas.

horizontal, vertical and oblique bands. Intaglio designs were accomplished with pointed implements. Vessels of both plastic and sun-dried clay were treated in this way, and occasionally fire-baked surfaces. A wide range of artistic embellishment is exhibited by the figures thus produced, which illustrate the various stages of progress from the most archaic type of ornament to elegant combinations of curves, and lastly to the delineation of life form and fanciful conceptions. Impressed or stamped ornaments rarely occur in this group of ceramic relics, while in the Gulf States, or Lower Mississippi region, stamps constructed especially for the purpose were used to a considerable extent.

Fig. 4—Animal-shaped Bowl, Arkansas.

Designs in color were depicted in white, red, brown and black; the paint, which was generally composed of opaque clayey paste, being laid on with brushes of hair, feathers or vegetable fiber. The forms embrace meanders, scrolls, circles and combinations of curved lines in great variety. There are, also, rectilinear forms, such as lozenges, zigzags and checkers. Mr. Holmes calls attention to the prevalence of curved forms, and to the fact that the inhabitants of the Mississippi Valley seem never to have achieved the rectangular linked meander, while the Pueblo Indians of the Southwest found in it a chief resource of decoration. The reason for this, he remarks, must be sought for in the

Fig. 5—Bird-shaped Bowl, Arkansas.

antecedent and coëxistent arts of those tribes—basketry and the manufacture of textiles—the "mound builders" not being highly accomplished in the textile arts, the influence of which gives rise to angular geometric figures.

In the arrangement of form-groups of archaic earthenware, the archæologist is naturally governed by the progress made in the art from simple to complex. The simplest forms are those of dishes, cups and bowls; these are followed by wide-mouthed, globular-bodied vases, generally known as *pots*. Next in the order of development come vases with narrow mouths and full bodies, commonly termed jars. Lastly on the list are the high, narrow-necked vessels universally denominated bottles. These four general groups do not include a number of vessels which, owing to complexity of design

and peculiarity of form, cannot be classified with any one of them.

Bowl-shaped vessels range in size from one inch in diameter and depth to over twenty inches in diameter and twelve inches in depth. They exhibit a great variety of form, from that of a shallow saucer to those of hollow globes with orifices. Some vessels are elongated, others are conical, while a few have rectangular or irregular shapes. Stands or legs are but rarely attached, and handles seldom occur except in the grotesque group of this class. As ornamentation was gradually developed, the first simple forms were greatly modified according to the fancy of the potter. Nodes and ridges, the more archaic types of ornament, were enlarged and fashioned into innumerable natural and fantastic forms. Birds, beasts and fishes, reptiles, human beings and imaginary creatures were finally fashioned out as ceramic embellishment. With this preliminary sketch of the earlier stages of the potter's art in the Middle Mississippi Valley, we will proceed to the development of life forms in the decoration of pottery.

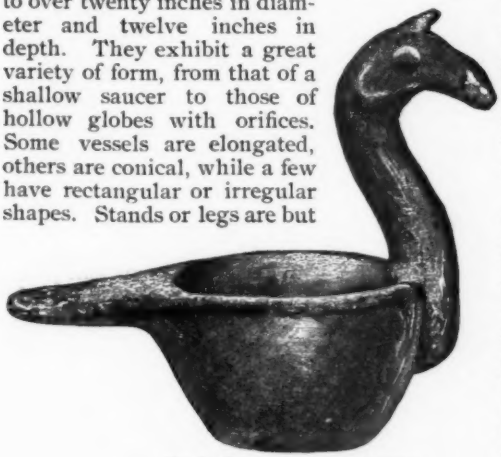


Fig. 6—Bird-shaped Bowl, Arkansas.

A large proportion of the bowls found in this province has undergone modifications that exhibit the tendency of the ancient potter to produce representations of living creatures, especial attention being given to the heads. Mr. Holmes finds it very difficult to determine the origin of this kind of ornamentation, and seems inclined to believe that it is not to be found within the plastic art itself, but in the shapes of antecedent and coëxistent vessels of other materials in which life forms had been employed, or in the use of natural objects themselves as utensils, suggesting the employment of other natural forms.

Antecedent to vessels of clay were such primitive utensils as shells, and the hard cases of fruits and seeds. These were the natural models, and from such incipient efforts the Mississippi potter advanced to the imitation of life forms. Though nothing is known of the origin and significance of the practice, it soon became a prominent feature of the industry, and in time the artist reached a freedom from the restraint of antecedent impressions that enabled her to indulge in the production of any form that superstition or fancy might suggest. The artist cannot be considered to have followed nature with much accuracy in details, but the essential characteristics of any particular creature were never lost sight of.

The frog appears to have been the favorite among reptilian forms, and figures numbered 2 and 3 are illustrations of bowls so ornamented. It will be noticed that in Fig. 2 the members of the body are boldly outlined, and that the long toes extend beneath it.

Fig. 7—Bird-shaped Bowl, Arkansas.

The rim of the vessel is notched and two small loops connect it with the head and tail of the batrachoid curiosity. The color of this vessel is red, while that of the one represented in Fig. 3, which is similar but with a front view, is dark.

A remarkable specimen of animal form is presented in Fig. 4. It is a deep globular bowl, representing the head of an animal that has a decided porcine expression. One side of the vessel is embellished with a long snout, with the teeth and nostrils strongly exhibited. Two nodes occupy the places of eyes, and behind them well defined ears appear. The circular hollow node on the side of the vessel opposite to that from which the snout projects suggests the idea of a severed neck. The bowl is of dark, well-polished ware.

Bird forms appear in illustrations Figs. 5 and 6, the former bearing a strong resemblance in the head to a turkey, while Fig. 6 would seem from the length of the neck, the projection of the breast bone, and the shape of the tail, intended to portray a goose or some long-necked aquatic bird. The elongated node on the head suggests an exaggerated representation of the cartilaginous excrescence that rises above the upper portion of the beak in certain species of the anatidæ.

An idea of the extraordinary variety of form attained by the ancient potter of the Mississippi Valley, and of the ingenuity the artist displayed in designing novel shapes, may be obtained by an examination of illustration Fig. 7. It is an imitation of a bird—but of a bird placed on its back. The neck and head are looped up at one end of the vessel to form a handle, while the legs are tucked up above the under side of the tail for the same purpose at the other end. Coarse lines engraved on the sides of the vessel represent the wings. In illustration Fig. 8 the letters *a*, *b*, *c*, *d* and *e* represent respectively the head of the summer duck, the grouse or partridge, the pigeon or dove, the vulture or eagle and the owl.

Fig. 8—Heads of Birds.

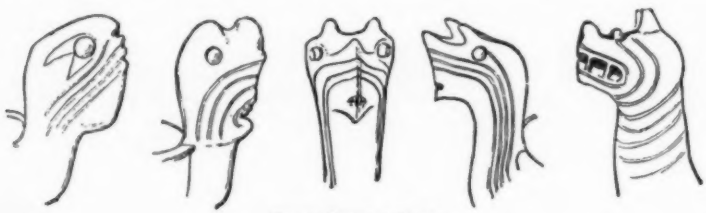


Fig. 9—Grotesque Heads.

We have now arrived at the divergence of imitations proper of animals and birds, however rudely executed, to grotesque forms, in the production of which the artist appears to have given full rein to her fancy or superstitious imagination. One of the most

unique vessels of this kind yet discovered is exhibited in illustration Fig. 10. It is a heavy, rudely finished

Fig. 10—Bowl with Grotesque Heads, Arkansas.

bowl to the rim of which, placed opposite to each other, two monstrosities are attached which may be designated as Indian ornithological gargoyles, though it is possible that the one on the left may have been intended to represent the plumed serpent that so often occurs in aboriginal American art. The other head with the double comb and prominent eye, reminds one of the domestic fowl.

Nothing could be conceived more grotesque than the heads which decorate the vessels represented in illustrations Figs. 11 and 13. The bowls are rudely finished and very heavy, the first being dark in color and the other red. A high bulbous nose and a grinning mouth; upright ears with projecting eyes formed of rounded nodes and curved seams, incised or in relief, extending from the mouth or eyes, are features which characterize this class of outlandish heads — see illustration Fig. 9. The animal represented bears little resemblance to any creature in nature, and Mr. Holmes was inclined to think that they may be the result of attempts to model in clay the mythical plumed serpent, but it would seem that he found reason to change his opinion for he adds: "The fact that in one case legs have been added to the base of the body militates against this theory. Their resemblance to the gargoyle heads of mediæval architecture suggests the possibility of early European influence." A great number of bowls, or deep pans, are found similar in make and general appearance embellished with the heads of animals. Illustration Fig. 13 presents such a one. The resemblance of the head to a doe or a fawn is decided, the tail on the opposite side of the bowl is pendent as in nature, and the legs which have been added to the base of the vessel terminate in cloven hoofs beneath the body.

Between the class of vessels above described, and pot-shaped vessels, there is no hard line of demarkation. The material used in the construction of the latter is generally coarser, and the finish more rudely performed than in other forms, indicating, probably, that they were used exclusively for culinary purposes. They have a wide range in size, the larger sometimes being fifteen inches in diameter and

Fig. 11—Bowl with Grotesque Head, Pecan Point, Arkansas.

twenty in height. Looped handles are mostly confined to this class of

pottery, and are generally ranged about the neck or rim. Less than four handles to a vessel of this kind is seldom found, while it is a common thing to find fifteen and twenty handles set about the rim. The ornamentation of this ware consisted of incised figures, principally exhibited in groups of straight lines forming angular designs; of punctures made with a sharp-pointed implement, and forming encircling lines and carelessly executed patterns; and of nodes, ribs and fillets, the manner of fashioning which has already been described.

Jars, or wide-mouthed bottles, were probably not used as utensils for cooking. Handsome in shape, tastefully decorated and small in size, their appearance, as there is no indication of wear, does not suggest the use to which they were devoted. Like all other forms, they are found buried with the dead, at the head or feet, or within reach of the hands. Without entering into further detail regarding the more ordinary forms of this interesting group, we will pass on to the stage of development where the ware put on the robes of eccentricity, and the artist began to imitate life forms and finally produced the human head in earthenware.

Among the life forms noticeable in this group are those of the sunfish and opossum, while other shapes are so rudely fashioned that, without being grotesque, nevertheless afford little suggestion as to the animal intended to be represented by the potter. On the other hand, there are specimens of exceedingly grotesque beasts, having horns and expanded nostrils, grinning mouths exposing long fearful-looking fangs, and clad withal with what might be imagined a dragon's coat of mail would be.

Fig. 12—Head-shaped Vase, Pecan Point, Arkansas.

It was but natural that a people having such a taste for life form in the embellishment of their domestic utensils should attempt to imitate the human face and head. The "mound

builders" of the Middle Mississippi, and other kindred tribes had already, before the discovery of the potter's art, made considerable advance in the carving of wood and stone. They displayed a decided talent for sculpture, and it might be expected, considering the facilities offered by plastic clay over the less easily worked materials of hard wood and obdurate stone, that the primitive potter would produce better work than the primitive sculptor. Such was the case, and the Indians of the region under consideration are found to have attained a remarkable success in the modeling of the human face.

Fig. 13—Bowl with Grotesque Head, Pecan Point, Arkansas.

Only a few specimens of these curious head-shaped vases have been obtained, and, like other vessels, were found associated with human remains in graves or mounds. Whether they were used exclusively for sepulchral purposes cannot be decided, though the death look that has been given the faces leads the archæologist to suspect that such was the case.

The finest specimen of these head-shaped vases yet obtained is represented in illustration Fig. 12. It is so interesting in its features and expression that Mr. Holmes' description of it and remarks upon its characteristics will not be out of place here. He says:

"In form it is a simple head, five inches in height and five inches wide from ear to ear. The aperture in the vase is in the crown, and is surrounded by a low, upright rim, slightly recurved. The cavity is roughly finished, and follows pretty closely the contour of the exterior surface, excepting in projections, such as the ears, lips and nose. The walls are generally from one-eighth to one-fourth of an inch in thickness, the base being about three-eighths. The bottom is flat and takes the level of the chin and jaws.

"The material does not differ from that of the other vessels of the same locality. There is a large percentage of shell, some particles of which are quite large. The paste is yellowish-gray in color and rather coarse in texture. The vase was modeled in the plain clay and permitted to harden, before the devices were engraved. After this thick film of fine yellow-

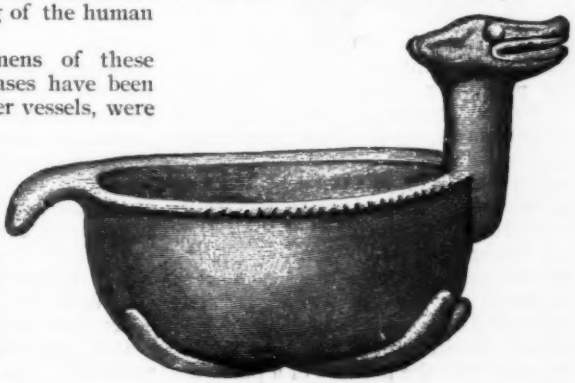


Fig. 14—Animal-shaped Bowl.

ish-gray clay was applied to the face, partially filling up the engraved lines. The remainder of the surface, includ-

ing the lips, received a thick coat of dark red paint. The whole surface was then highly polished.

"The illustration will convey a more vivid conception of this striking head than any description that can be given. The face cannot be said to have a single feature strongly characteristic of Indian physiognomy. We have instead the round forehead and the projecting mouth of the African. The nose, however, is small and the nostrils are narrow. The face would seem to be that of a youngish person, perhaps a female. The features are all well modeled, and are so decidedly individual in character that the artist must have had in his mind a pretty definite conception of the face to be produced as well as of the expression appropriate to it, before beginning his work. It will be impossible, however, to prove that the portrait of a particular personage was intended. The closed eyes, the rather sunken nose and the parted lips were certainly intended to give the effect of death. The ears are large, correctly placed and well modeled; they are perforated all along the margin, thus revealing a practice of the people to whom they referred. The septum of the nose appears to have been pierced, and the horizontal depression across the upper lip may indicate the former presence of a suspended ornament.

Fig. 15—Head-shaped Vase, Pecan Point, Arkansas.

"Perhaps the most unique and striking feature is the pattern of incised lines that covers the greater part of the face. The lines are deeply engraved and somewhat 'scratchy,' and were apparently executed in the hardened clay before the slip was applied. The left side of the face is plain, with the exception of a figure somewhat resembling a grappling-hook in outline, which partially surrounds the eye. The right side is covered with a comb-like pattern, placed vertically, with the teeth upwards. The middle of the forehead has a series of vertical lines and a few short horizontal ones just above the root of the nose. There are also three curved lines, near the corner of the mouth, not shown in the cut. * * *

"The head dress should be noticed. It seems to have been modeled after a cloth or skin cap. It extends over the forehead, falls back over the back of the head and terminates in points behind. Two layers of the material are represented—the one broad, the other narrow and pointed—both being raised a little above the surface upon which they rest. This vase is somewhat smaller than the human head."

Similar in conception and execution are several other head-shaped vases, an example of which will be found in illustration Fig. 15, which represents a specimen exhumed at Pecan Point by the agents of the Bureau of Ethnology, and now in the National Museum. In size, form, color, finish, modeling of features and expression, this head closely resembles the one just described. The curious device near the left eye, as mentioned above, appears in this specimen on both sides of the face. Three lines cross the upper lip and extend over the cheeks to the ears. A band of fret-like devices extends from the corners of the mouth to the base of the ears, while another band filled in with reticulated lines, passes round the chin and along the jaws. The ears are perforated and the septum of the nose is partly broken away as if it had once held a ring. The face is coated with a light yellowish-gray slip, the remainder of the surface being red.

In the collection of Mr. Thibault, of Little Rock, Ark., is a very interesting specimen of the red pottery of that state. It is represented by the illustration Fig. 17. The human face, in this example of head-shaped vases, is modeled on one side of the vessel and interferes little with the outline, the face being only slightly relieved. It extends from the neck of the vessel to the widest part of the body of the same. Across the face from just above the eyes to the bottom of the lower lip, a light, flesh-colored paint has been applied, the remainder of the surface being of a bright, rich red color. As in the case of all other face vessels, a death-like appearance has been given to the countenance.

High-necked, full-bodied bottles form a marked feature in the pottery of the Middle Mississippi region, it being rarely found elsewhere in the United States. Their forms are greatly and beautifully varied, exhibiting numerous examples of globular, conical, cylindrical and even terraced construction. A striking peculiarity in this group is the presence of legs and supports used in tripod fashion—a

Fig. 16—Owl-shaped Bottle, Arkansas.

device doubtless suggested by the bird forms modeled from clay, and which were made to rest upon the feet and tail.

The styles of decoration show no distinction from those of the previously described groups, but the patterns are more elaborate and the designs in color more carefully executed. As in the antecedent classes, the simpler forms of bottle-shaped vessels were made to assume modified shapes according to the fancy of the potter, and life forms appear as plentifully in this group of ware as in the others. Quadrupeds, fishes and birds, as well as the human form, are represented—the employment of such embellishment being

adapted to the ruling configuration of the ware. Space will not admit of our entering into more detail with regard to this group, and we shall dismiss it after calling attention to that retrospection and investigation into the primitive condition of mankind and mankind's environments are parallelisms, in opposite directions, with future discovery and invention.

Fig. 17—Head-shaped Vase, Arkansas.

illustration Fig. 16, which represents an owl-shaped bottle. The bird of wisdom was a favorite subject with the potter, and the specimen alluded to is a handsome one of its class. The wings are well treated, and the plumage is indicated by alternate bands of pale red and yellow-gray. These bands are outlined by fine incised lines; the remainder of the body is painted gray. The reader will not fail to notice that the vessel rests upon the feet and tail —a natural tripod. The surface is carefully finished and the modeling unusually successful.

In the development of civilization the progress from stage to stage to a higher platform, whereupon greater comforts and luxuries are gained, does not satisfy the human mind. The intellectual inquisitiveness of cultured man does not point its finger ever forward. In this age of rapid advancement, the question of man's future is so closely connected with his origin The intelligent being of to-day cannot rest with inquiring only into his future; the human race wishes to know something of the pre-historic past. It is to the labors and researches of archæologists and ethnologists that we are indebted for the revelation of many mysteries that wrapped our past in a veil of mist; every effort of theirs unfolds archaic scenes to us.

Retrospective scientists rend aside those portions of this veil of mist that corresponds with their particular lines of research. The geologist reads the illustrations printed on the strata of rocks hundreds of thousands of years ago. Agassiz and Owen and their followers have produced models of the pre-Adamite animals of the earth, and even somewhat definitely pointed to the earliest appearance of the human being upon it. The ethnologist traces out the progress and particularities of man's advancement by studying the relics of his handiwork.

MARKETING CALIFORNIA FRUITS.

BY W. H. MILLS.

AMONG the many questions of vital interest which affect the horticulturist, the farmer, and the prosperity of California at large, none is more important than that relating to the marketing and distribution of fruits.

The orchard and vineyard products of California, to reach consumers outside of our State, must travel an average distance of about two thousand five hundred miles, and the best method of sending the fruit of California in its green form, directly to the consumer, deserves careful consideration. The plan heretofore adopted followed the ordinary methods of commerce; that is, the fruits have been shipped to the large commercial centers for distribution.

Every commonwealth must have what is known to the political economist as a basis industry. Such an industry has its permanency in physical or climatic advantages. Pennsylvania may be used as an illustration. Coal and iron constitute the basis of the industrial opulence of Pennsylvania. The products of these furnish a foundation of growth and prosperity upon which other industries stand as a superstructure. Coal and iron are found in large quantities in that State. They are found contiguous. Their extraction is economic, and their relation to and interdependence upon each other furnish the opportunity of founding a great industrial empire upon them as a material basis.

The commercial relation between all parts of the world grows constantly more intimate. With that intimacy the competition between climates and soils, and mines, in fact all elements of production, becomes more intense. The iron and coal mines of Pennsylvania and the resultant products of the labor founded upon these, added to the geographical position of Pennsylvania, enable that commonwealth to place the products of iron and coal in the markets of the United States advantageously, with reference to the competition offered by other localities. The Government has extended to the iron industry in the United States a vast subsidy in the way of protection. Thus the basis industry of the commonwealth of Pennsylvania is under the fostering care of the Government. The economic facts controlling the product of iron and coal in the United States make Pennsylvania practically independent as to the effect of domestic competition. A protective tariff relating to iron and its products emphasizes that industry, and relieves its products from foreign competition at least in the home market. This superiority of advantage becomes a guaranty of permanency. The products of coal and iron in Pennsylvania confer upon the people of that commonwealth a purchasing capacity, and an accumulation of capital which generates enterprise in infinite variety. Incidental to this great leading industry, other industries become possible. But the industrial fabric, like all other structures, has its architectural design, its foundation, and its superstructure. The extent to which the basis industry of a commonwealth is the source of all industrial prosperity, is not apparent to casual observation; nor even to close analysis. An approximation of the extent to which all industries are dependent upon some great leading and standard industry can be reached by imagining, for illustration, that all the iron mills of Pennsylvania and all the mines of that State were suddenly eliminated from the industrial category.

It is not difficult to imagine the disaster which would ensue. In fact, the statement that the whole industrial fabric would fall, will be readily received. In the building of commonwealths we must observe the analogies of all great structures, and in building our California the question naturally arises: What have we here possessing economic advantage in the intensified competition of production throughout the world, which constitutes at present, or will constitute in the future, a basis of our industrial system? As already noted, the existence of such industries, or basis industry, with its wealth-generating power, will eventuate in enterprises as broad as the field of human activity. Mining for precious metals was the original and paramount industry of the State. It attracted the pioneer population, but countries prolific of precious metals are proverbially poor. The production of a million or ten millions of gold and silver, as a result of mining, proclaims the impoverishment of the mines to that extent. It indicates plainly that so much has been extracted and that that much less remains. Nor is it an industry which enhances skill or encourages the productive capacity of a people. On the other hand, the creation of ten millions in the way of agricultural product or manufactures discloses a capacity which of itself is a guaranty of a repetition of the annual product in an increasing ratio. The continued production of wealth in the first instance is dependent upon the existence of precious metals. In the second instance, it shows a productive capacity inherent in the character and habits of the people producing it. Mines are easily exhausted by modern methods of extracting ores, but skill, industry, intelligence and stability of character are inexhaustible, because they are elements capable of constant augmentation. An industrial prosperity founded upon fertility of soils, clemency of climate, the skill and intelligence of a people, the stability of personal character and government, may be depended upon, because all these things may have indefinite perpetuation. If upon such a basis, the mining for precious metals stands related as incidental, then it may be a valuable adjunct, supplementing symmetrical development. But to reverse this order and found a commonwealth upon the ephemerous industry of extracting precious metals, when, as indicated the very prosecution of the industry is itself a process of impoverishment, offers no guaranty of stability. Mining for precious metals then cannot become the basis or standing industry in any country.

Looking from this field of original enterprise to later industrial development in California, we find at last in the fertility of our soils, and the expanded possibilities of our climate, the hopeful direction of permanent greatness. For the sake of perspicuity, let it be repeated that the permanency of a basis industry is dependent upon conditions favorable to successfully meeting a competition offered by other countries. Viewing California from this standpoint, it becomes more apparent every day that horticulture is to become the great industry of this country, to which other industries will become subordinate and incidental. All people find it advantageous to buy from abroad the articles which will be furnished more cheaply than produced at home. Between individuals and commonwealths, the law of economic production enforces the policy of directing the individual and general productive activity into the most profitable channels. If the products of our orchards and vineyards can be offered in Eastern markets, at rates which will justify their purchase by consumers, as against the production of like articles at home, our industry in this regard is permanent. The question of probability, as to whether California can become the orchard of the whole country, is answered by experience.

The writer finds a prevalent opinion

to exist, which is a matter of surprise, to the effect that California sells fruit to the East, because of earlier conditions. It is the commonly received opinion, that our fruits ripen at a different time, and that our sales to the East are made when the home product is unavailable. This is not true. The fruits of the East, when taken in their entire variety, ripen in the months of July, August, September and October. Take the green-fruit shipments of 1891: We shipped from California, in the green-fruit form, three thousand four hundred and twenty carloads to the Atlantic States, Middle States, Western States and the State of Colorado. Of this total shipment, two thousand eight hundred and ninety-three cars were sent forward in July, August, September and October, the four months covering the fruit harvest period of the East, leaving but five hundred and twenty-seven cars for the months of May, June, November and December. It is significant that we shipped no fruit in the months of January, February, March and April, and but twenty-two cars in May; the first five months of the year, therefore, practically show no shipment. Our shipment begins in June, and more than eighty per cent. of the entire shipment finds a market at the East, in the face of the domestic fruit production of those States.

I have previously expressed the opinion that we had not placed our fruit within the reach of five millions of people. If this statement needs modification, it is in the direction of a reduction of the number. The early fruits reach the Eastern market at such rates as to make them luxuries. I have personally examined the market in the month of June, and found cherries selling at two dollars and fifty cents per box, when they were being marketed in San Francisco at thirty-five cents per box. I have information to-day that California peaches are selling at seven cents a peach in New York, at the retail stands. It is not enough that our fruits are placed in the markets of the East; they must be placed there at such rates as will enable the masses of people to consume them. Considered in this light, we have not placed our fruit, on the average, within the reach of one million of consumers.

I have also stated, from data which may not be disputed, that the orchards of California last year produced three hundred thousand tons of green fruit, which was shipped in the various forms of dried, canned and green fruit, and found market in the world. This statement will not be controverted, since it cannot be successfully. Within twenty years, fruit shipment has grown to the enormous proportions herein indicated. The question we are considering is: How shall we so distribute the fruit, as to bring it within the reach, physically and financially, of a larger number of consumers? And the question is one of simple proportion. If at the present prices, and with the present facilities for distribution, we have found a market for three hundred thousand tons, and yet have placed the fruit, when the price is considered, within the reach of five millions of people, may we not hope to double the market, when we bring that product within the reach of twice that number, or treble it, when we have reached three times that number?

The whole subject opens a wide field for contemplation, when we consider the leading factors of the problem. First, we have an unlimited capacity for the production of fruit. Second, we have economic advantages in its production, which will enable us to offer it to sixty-five million of Eastern consumers, at a price which will justify them in purchasing. Between the price paid to the grower, and the price paid by the consumer, there is a vast margin. The commission alone on the sale of our fruit is seven per cent., and that of itself constitutes a market-seeking fund, which should incite distributors to the highest activity.

The present method of distribution is costly to the consumer, and all high cost to the consumer means a small reward to the producer. The higher the price paid by the consumer, the less the producer will get. High prices discourage consumption, and enforce the condition of over-production. So far as relates to green fruit, the commodity is exceedingly perishable. Commercially considered, every cargo lost is charged to the successful venture. Further examination into the subject convinces me that much improvement has been made, over former years, in the way of distribution. The more important intermediate stations are supplied with carload lots. But the general statement that the fruits are shipped in carload lots to the large commercial centers for distribution remains true. In the year 1891, we shipped to the Atlantic States, nine hundred and nine carloads of fruit. There are but five places of consignment, as follows: New York, five hundred and thirty cars; Boston, one hundred and twenty-one cars; Philadelphia, eleven cars; Baltimore, one car, and Buffalo, one car. Of these five cities, two receive one car each, and one, a city of a million of inhabitants, receives eleven cars. There is a growing market for fruit west of the Missouri River. As an illustration, of the shipments of 1891, Butte, Montana, received forty-eight cars, and Denver, Colorado, one hundred and fifty cars. Can it be said of an enterprise that it has reached its full development, when a market is found in New York City for five hundred and thirty carloads of green fruit in the year, while in Philadelphia, but eleven cars are used? Philadelphia has at least one-half the population of the City of New York, while the climatic and commercial conditions are completely analogous. But these nine hundred and nine carloads, shipped to these Eastern centers, pass through towns, villages and cities, whose population in the aggregate is equal to the population of the cities, to which the fruit was consigned.

Briefly then, what is proposed is a system of direct distribution. It is evident that the one thousand one hundred and forty-two carloads of green fruit shipped to Chicago were in part re-shipped, and this is the feature to which objection is raised. If a carload of fruit was shipped to Chicago, and was subsequently re-shipped to Milwaukee or Indianapolis, an additional profit to the middle man ensued. Thus the fruit was burdened with a price that placed a limit upon its consumption. It will be gratifying to all Californians to know that the proposition of direct shipment to all the centers of the East, great and small, instead of shipping to commercial centers for secondary shipment, or re-distribution, has met with concurrent favor at the hands of the press, and those directly interested. The transportation companies of the country stand ready to second any improvement which may be devised or be sought to be applied by the consignors of the freight. The present facilities for freight shipments from the Pacific Coast to the Eastern States constitute the cheapest service, when rate and speed are considered, that is performed by the railroads of the United States. This great concession to this industry by the railroads of the country stands fully acknowledged by shippers engaged in this species of merchandising. The determination of methods of distribution of any species of merchandise does not lie with the carrier. It belongs to the shipper wholly. Fruits are shipped by order of the consignor, and are delivered to the consignee. The vast system of network of railroads, connected by the long distended lines which reach the Pacific Coast, stands ready to perform the carrying service, and has actually performed this service at the minimum cost of movement alone. A better system of distribution is, therefore, not obstructed either by the rate at which the fruits are carried, or by want of liberal facilities for the car-

riage. Distribution is the office of merchandise. The problem to be solved is, therefore, mercantile, and its solution is with the merchants engaged in this great enterprise, and not with the carrier who carries the fruit to its proper consignment according to order.

What is sought is a market commensurate with the possibilities of production in this State. The magnitude of the opportunity is appreciated only by those who have given the subject thoughtful attention. A single purchaser of dried fruit in the City of San Francisco purchased in the space of one month one million dollars worth of fruit, and even the recitation of this fact does not disclose fully the vast volume of business possible to that industry.

The next consideration relates to the profit of fruit-growing. A profit equal to one dollar a tree, or half that sum, or a quarter that sum, will confer upon our commonwealth a profit far in excess of that attending any other cultivation of the soil. We are enjoying in the current year the highest prosperity the fruit-growers have known, and yet the whole enterprise has made its way against continued predictions of over-production and ultimate failure.

The magnitude of the opportunity also suggests at once the possibility of a special equipment, and special treatment of the whole subject. We are in plain view of the ultimate possibilities of this industry, and the time has arrived when we may safely prepare to adopt such methods as to its commercial features as will take it out of the list of ordinary commercial transactions, and justify the inauguration of separate and special instrumentalities of distribution. In its practical aspect, the proposition demands the formation of a commercial company for the sale and distribution of the fruit. The auction method having proven successful, it is practicable to send to every town or city, in the United States, where a market for a single car might be found, a carload of fruit, to be sold at auction; and this fruit should be sent directly from the centers of distribution in California, and regardless of centers of distribution at the East. As supplemental to this, it is competent, over Eastern lines, to distribute fruit in less than carload lots, over short distances of distribution. Thus continuing the present method of sending all fruit to the great commercial centers of the country, for which a market might be found, let it be supplemented by an organization, which will establish agencies in every town or city, that will take one or more carloads, and this be further supplemented by a distribution, in less than carload lots, through the instrumentalities of local railroads everywhere. When that is accomplished, a process of the steady growth and expansion of the industry will have set up. It will have become organic, and, obeying the law of all organism, will continually grow. It will offer a competition to the growth of fruits in climates not favorable to their production, which will eventually give us absolute control of the markets now being supplied by Eastern producers. This is true, because it is true in modern economic methods, that notwithstanding the distance intervening between points of production and consumption, every article is being produced in the soil and climate, and under the conditions most favorable to its production. It is absurd to suppose that this law of modern economics is not equally applicable to the production of fruit in California, when the favoring conditions in this State are understood, or when they are contrasted with the unfavorable conditions of other portions of this country. The very contrast closes the argument.

General farming, however profitable, can never confer population. Whether true or false, it is a leading tradition of general farming in this State that its highest profit is derived from large aggregations of ownership. These large aggregations have taken place,

and the tendency is constantly in the direction of still greater consolidation of ownership, and consequent depopulation of the country. On the contrary, the industries connected with the orchards, vineyards and gardens of California have an inherent tendency of segregation. Ten acres of orchard, vineyard or garden will afford profitable employment equal to that required upon one thousand acres of ordinary wheat land in this State. The acquirement, then, by this commonwealth, of a great substantial industrial foundation, lies plainly in the direction of availing ourselves of the peculiar advantages of our climate. The absence of a cheap coal, that reservoir of mechanical power, forbids the hope of the establishment here of great manufacturing enterprises, with their attendant density of population. In fact, as already shown, the successful establishment of a basis industry will eventually confer upon us manufacturing facilities and incidental enterprises in every direction, for, wherever a substantial industrial basis is established, diversity of profitable occupation arises as an inseparable incident of prosperity.

Commerce is but an incident of industrial activity. The volume of commercial transactions, as relates to any people, is measured by their purchasing power, and the supreme source of wealth in any community is the productive capacity of its people. Horticulture, prosecuted under the unrivaled advantages which attend it here, leaves us without a competitor. Upon this substantial and enduring basis, the entire industrial structure will eventually rise.

THE FAMINE IN RUSSIA.

BY FLORA MACDONALD SHEARER.

Ill shall it be in time to come for those
Who, careless living 'neath a bounteous sky,
Calmly indifferent, can hear the cry
Of thousands helpless in the mortal throes
Of desolating hunger. If we chose
What saving ships across the sea should fly,
Climbing th' uneasy wave, each day more nigh
To the sad northern land of steppes and snows.

Almighty God! If by a miracle,
As in old days, thou now should'st prove thy power
And show the exceeding brightness of thy face
So long withdrawn——! With love unspeakable
Touch thou men's hearts, and but for one short hour
Let mercy all the suffering world embrace.

SUPERSTITION.

BY BETTIE LOWENBERG.

SCIENCE has partially lifted the veil, and accounted for various phenomena formerly unintelligible to us, but we are still novices in many things; and what is now attributed to supernatural agency, stubborn facts will sooner or later demonstrate, and the hold of superstition upon the human mind will grow weaker and weaker. Surrounded as we are by the almost impenetrable walls of nature, we are filled with an indefinable awe at her wonders, and as we are blown hither and thither like straws before the wind, we accept certain manifestations, construe them to our liking, and become imbued with superstitions. The stronger the mind the less it accepts, unless demonstrated by facts.

In very early days, before the sun of intelligence had shed a ray of light over this benighted world, the devil played a very conspicuous part, and governments as well as individuals took advantage of the weakness of mankind. The majority of us have gotten bravely over the belief of a devil in propria personâ, and many of us do not believe in a devil at all. But what a "turning of windmills into giants," what a struggle to be relieved of that non-existing horror, and what battles, real and imaginary, have been fought over his Satanic Majesty! It would be ludicrous were it not pathetic. From the belief and hope in immortality have sprung the superstitions with which the human mind is tinged. Resent it as we will, there rise up in the strongest intellects moments in which we wonder whether there are not "more things in heaven and earth, Horatio, than are dreamt of in your philosophy."

Suicides have often been forbidden burial in consecrated ground, and governments have often denied them burial at all, which may seem harsh, but the motive is very good in deterring others from doing likewise. It is all very well for us to say that we can stand alone and require no support; that we are not affected by our neighbor's actions, and that they are not contagious like disease, but it is nevertheless true that we are more or less influenced—imperceptibly, perhaps—by our surroundings and associations. An eminent physician told me that a child affected with certain nervous infirmities is sufficient to work up a whole school of children. It is said that "nations, like individuals, have their whims, peculiarities and superstitions," and do we not all hug them with the fervor of a youthful lover?

It is so easy to fill the mind with testimony from every flower that blossoms, from every fruit that ripens, from the clouds that sound in the air. The imagination works such wonders that delusions become realties; the air is peopled with invisible beings, creations of the brain, and they linger as superstitions. Superstition grows rank in the soil of ignorance and weakness, and in the uncultured and undisciplined mind. We have only to wake up and throw off the shackles, for superstition is slavery. We all know that a superior mind exerts a decided influence upon a weaker one. It is only when our minds are feeble, or become so by a concentration of thought on one subject, that we get ideas which are at variance with established rules of right and wrong. Women are much more easily affected than men by magnetism, hypnotism and all other *isms*, being of a more nervous temperament and finer organization, therefore more susceptible.

The manipulations of mesmerism—if the purpose were unknown to the patient—would be of no avail, proving conclusively that it concerns the mind alone.

In all ages there have been adventurers and impostors, and these have disciples, and these disciples followers, until a delusion or superstition has an army of adherents. Now, though science and discovery have gone far, and though we know accurately of what the diamond is composed, we cannot make the diamond, still less attempt to make an element. These are treasures locked up in vaults to which there is no key; no more can we solve the mysteries of the future or communicate with the unknown world. Though nature may indulge in freaks, she never deals in the supernatural; what appears so is done by human agency.

Superstition is a dark band over the eyes. It has a hold like a mania and maddens its victims, causing them to commit the most frightful crimes. We often read in the present day of needles being swallowed and ejected from different parts of the body; two or three centuries ago this fact would have been attributed to witchcraft, and such things have cost many an old woman her life. To put a person on trial for witchcraft—still more that person's condemnation—I think is a reflection on the intellectuality of man; and there are few who would wish to revive the superstition of the Dark Ages.

To this day there is in Italy and some other parts of Europe the belief of the evil eye. In Bavaria, in 1600, people were executed for saying: "What a sweet child!" "What a lovely woman!" "What a strong man!" because the belief was that they would be immediately afflicted with disease and wither away. Salem, Mass., in 1692, suffered from a delusion of witchcraft, and many persons lost their lives. The witch mania caused Stearne to say: "What a beast man is!" The incubi and succubi, male and female demons, lived in the immensity of space to torment mankind. The belief of the power of the devil to assume certain shapes gave rise to sorcery, and persons were condemned to be burned, upon statements so absurd that it seems almost impossible to conceive minds so narrow in the form divine. To such an extent was this, the greatest superstition of any age, carried that husbands informed against their wives and vice versa. In England, in 1562, even under the sapient Elizabeth, the statute was passed, recognizing witchcraft as a crime of the deepest enormity. Indeed, superstition fastens itself on ignorant minds and grows with amazing rapidity.

The picture of Archbishop Laud, not long before his martyrdom, fell at full length, the cord having snapped. He considered it as a warning of death. Pictures have been known to fall before and since, mirrors to break, and lives to flow on as serenely as ever; but when something unpleasant occurs, we attribute it to these otherwise ordinary happenings. It has been shrewdly and perhaps not untruly observed that "a genuine and solemn citation may tend to work its own fulfillment in certain minds, who, by allowing the thing to prey upon their spirits, enfeeble the powers of life, and perhaps as the critical date arrives develop some latent or dormant disease into action."

The world has been deluged with myriads of superstitions which came and attacked mankind like epidemics. As for prophecies and omens, there is scarcely anything that cannot be made to prognosticate good or evil. The flapping of the wings of the screech owl at midnight, the chirping of a cricket, the treading upon a beetle, putting on your stocking wrong side out, sneezing twice, a dog or cat following you, a swarm of bees alighting in your garden, and a thousand other trivial things are interpreted into something of good or bad import; everything animate or inanimate can be construed

as pertaining to our good or bad fortune. In regard to the superstition of thirteen at table, that one must die during the year, I agree with Dr. Ritchener, who facetiously said, "that there was one case in which he believed it was really unlucky for thirteen persons to sit down at dinner, and that was when there was only dinner enough for twelve."

Though many fallacies and delusions have been remorselessly swept away by time and the progress of centuries, still many remain that have abided with us for ages; one of these which centuries have not exploded is the interpretation of dreams. From the earliest time, faith has been placed in them; and which one of us has never been disturbed by disagreeable dreams, which, no doubt, come from indigestion or concentration of thought upon one thing? We never dream of anything of which we know nothing. Of course some have dreamed of heaven, but it is always the heaven pictured in their imagination, an atmosphere redolent of perfumes, adorned with marble streets, canopy of gold set with gems, angels floating round, etc., etc.

At one time popular superstitions were that if the accused went unscathed through certain trials, he was innocent, and if not, guilty. One of the ordeals was the judicial duel—which is the origin of the duel of modern days—and it was sanctioned in primitive times both by the civil and ecclesiastical law; there was also the ordeal of boiling water, boiling oil, hot iron and various other trials, which were appealed to. The superstitious still think cholera, smallpox, yellow fever and other epidemics are sent by God to punish the wicked, but they forget the bacilli!

Religious superstitions were undoubtedly first encouraged by the wise as a substitute for the law. When the law was lax, might was right; but the superstitions of the mind conquered many of those rude, haughty spirits. Egypt, though one of the most enlightened nations of ancient times, was totally blind in her superstitions. Not only were the people polytheists, worshipping the sun and moon under the names of Osiris and Isis, but they worshipped the ox, or Apis, the dog, the cat, the ibis, the ichneumon and the scarabeus. Ferocious animals, nay, the very garden plants, the leek and onion, received divine honors. Juvenal satirically says: "O, sanctimonious nations, whose gods grow in their gardens!" The cat was held in such reverence that in time of famine they preferred devouring each other to eating "the flesh of their imaginary deity." Eventually, heroes and good men were deified, as their creator was anthropomorphized. The Babylonians had their Belus, the Phœnicians and Canaanites their Astarte and their Moloch, and as they were astronomers, believed in the influence of the sun, moon and stars. The Persians, as well as many other nations, believed in sacrifices, and the advice of Cambyses I to his son Cyrus, the Great, was "never to undertake anything without having consulted heaven and offered sacrifices."

Moses is said to have worked miracles with his rod; from this came the divining rod, which, in later times, is asserted to have traced murderers and thieves, with the instinct of a bloodhound. It also found hidden treasures, water, etc.; and this faith in discovering metals is not yet dead. This species of divination is called rhabdomancy; it was popular among the Greeks and Romans, and was fully developed in the middle ages.

Men were condemned to death on such evidence. Well, the shock of a stick walking up to a person might have the wondrous effect of inducing one to confess crimes never committed!

What is the mythology of Greece and Rome but a mass of pleasing superstitions and beautiful traditions, with its gods and goddesses, living on nectar and ambrosia? Murray says: "In the best times of Greece, no doubt thinking men acknowledged one

Supreme Being, and looked on the crowd of other gods as merely his servants, and in no sense really different from our idea of angels."

It is on the records of China, more than four thousand years ago, that the two royal astronomers, Ho and Hi, were sentenced to death for not predicting an eclipse of the sun—such an omission preventing them from performing their religious duties, and bringing upon them the wrath of their gods. The ride of Mahomet to heaven and back, in a few days, upon his wonderful mare Al-Borak, and the marvelous things he saw there, are believed with religious fervor by many Arabians; to us it appears very weak indeed. So must all miracles of this kind, for they are unsupported by facts.

In the tenth century there was much poverty and destitution in Europe, so much so that people believed it was a punishment, which could only be averted by softening the wrath of God by penance and pilgrimages to Jerusalem. Such were the superstitious sentiments of the age which gave birth to the mighty wave of the Crusades, which swept over Europe with the force of a tornado. Comets, meteors and eclipses were long considered by the ignorant and superstitious as manifestations of the Divine power, portending disaster. The spilling of salt is considered a bad omen; well, possibly, as Sir Humphrey Davy observes, "it may arise from a disposition to apoplexy, caused by an incipient numbness of the hand and may be a fatal symptom." Many persons believe in certain numbers or days of ill omen; for instance, they will not commence any undertaking on Friday. The steamers and cars go every day, and accidents happen on one day as well as another, but no more and no less. Columbus set forth from Palos, Spain, on Friday, and the eventful discovery of a new continent was made on Friday.

All tribes, races and individuals have had innumerable superstitions. The Brazilian savage took the skin of his manitou and made a medicine bag out of it. This always accompanied him, the Indian paying the greatest homage to it, for upon that, according to his idea, depended his happiness through life.

The Chibehas, a tribe of Indians, never destroyed spiders, because they thought that after death they had to cross a great river on floats of cobwebs! A number of nations believe in metempsychosis, or transmigration of souls. Of course the prevailing opinion among them is that the better the man the higher the animal that the soul enters into; the wicked pass into the lowest creation. The natives of West Indies believed in idols, and there was an idol factory on one of the islands. In Hispianola, we are told by Dorman, the cacique and priest concocted a contrivance by which an idol was made to speak. The statue being excavated in the interior, the priest spoke through a hollow tube which was placed in it. The Spaniards discovered it. The cacique entreated them not to disclose the secret to his subjects, as he governed them through that belief.

The narcotic plants among some tribes are supposed to contain spirits. In Peru, tobacco and cocoa are looked upon with veneration, and cocoa leaves are used as a charm. To some races the constellations are heroes apotheosized and translated to heaven. There is a pretty legend of the Greenlanders: "The moon had a sister, the sun, with whom he was in love and stole in the dark to caress her. She, wishing to find out who her lover was, blackened her hands so that the marks might be left on him; and this accounts for the spots on the moon. The sun, however, determined to get rid of him and flew up into the sky; but the moon pursued, and there they are to this day in the blue vault of heaven." You will see here that the moon is in the masculine gender and the sun in the feminine, as it is in the German language to-day.

The Indian's dream of heaven is a

happy hunting ground where his dog and horse shall be. As there is no work to be done there, woman seems to be shut out from his paradise. The agitation of the present time among the North American Indians and the Aztecs of Mexico is the Messiah craze. Kicking Horse, a Sioux Indian, says that a great wave will come over the country, the pale faces will be buried, and the Indians must keep on dancing; and that they will be saved as a swimmer passes over the waves of the sea, and recover their endless prairies and chase the buffalo from the rising to the setting sun. Those who do not join in the "worship dances" will be turned into fishes. Such is the superstition which has resulted in an Indian war, and may lead to their gradual extinction. We have an example of the credulity of people in Mrs. Woodworth, who prophesied that many cities, and especially our classic Oakland, would be engulfed by earthquakes and tidal waves. Many placed faith in her words, and disposed of their effects and fled to the hills, waiting "for the destruction that never came," showing that whites as well as Indians, and in our enlightened nineteenth century, are still subject to that inexplicable emotion to which man has been subject since the creation.

*It is neither godly nor philosophical to believe in miracles, though from before the time of Moses individuals are said to have been gifted with that power. "A miracle," says Hume, "is a violation of the laws of nature, and, as a firm and unalterable experience has established these laws, a proof against a miracle is as entire as any argument from experience can possibly be imagined." Nature does not suspend her laws; nothing from the unknown world manifests itself; it is only an exaltation of the mind that causes these things to be photographed so vividly that they become realities. Miracles, necromancy, sorcery, etc., are the characteristics of bigotry, fanaticism, ignorance, weakness and fear.

Superstition has kindled many fires, and it is as difficult to eradicate from the human mind as to find the philosopher's stone. Though for ages all the batteries of education and civilization have played against the fortress of superstition, it has not yet surrendered. It will take centuries of progress, if ever it be done, to level it to the ground. It should be sponged out; we should be better and stronger for it. Let us open the windows of our mind; and let the broad sunlight of education enter, with charity for our neighbor's infirmities, sympathy for their afflictions, and, above all, *love* for mankind, which, as Drummond says, "is the greatest thing in the world;" and I assure you superstition will be chased out into the darkness from which it sprang.

*THE CALIFORNIAN is not responsible for the views of its contributors, but desires to allow the fullest expression upon all questions, compatible with good taste.

SHALL MACHINE POLITICS RULE?

BY MAJOR WM. H. BONSALL.

IT is the proud boast of Americans, under our form of government, with its free institutions and universal suffrage, that this is "the land of the free and the home of the brave." In keeping with our form of government, the whole people are called upon to select individuals to perform the various functions of office through national, state and municipal elections, and it is in regard to the methods of political parties in naming their candidates, that this paper is addressed. A careful analysis of the condition of political affairs as they exist to-day, of the strength and weaknesses of party management, will disclose more weakness than strength and show the proud boast of Americans to be a barren idealty; that they are not so *free* as they think they are, and are not deserving of being heralded through the cycles of years to posterity as "*the brave*," until they show some capacity and determination in so plain and simple a duty as selecting the best men as candidates for office. A government resting upon the popular will is thoroughly free; as a people in business and social affairs we are free, and we are also free to cast our ballots as we choose; but yet we are not really a free people, because through political machinery and conventions an honest and intelligent expression of the popular will is often prevented, and the masses are made to groan under the burdens and injustice of government. This is more especially true in regard to municipal government. The American people are brave in all affairs, except in politics, and they are brave there also in emergencies, but on ordinary occasions they are disposed to cringe in the presence of the political boss and his minions. The masses have the courage to face dangers, but the responsible elements are disposed to cower and shirk before the disagreeable.

Good men freely admit that through their inattention and neglect they suffer from bad government, which might be prevented through the united and honest efforts of the substantial classes. When asked why they do not take part in politics and apply a remedy for evils, they frankly admit that they have not the courage to face the disagreeable surroundings and combat the machinery of the bosses. Those who manipulate politics understand this cowardice of the most interested and responsible elements, and they use their power to benefit themselves. It is a universal complaint that the strongest and best men are not always selected as candidates. In fact, it is frequently asserted that they cannot be induced to accept nominations, because of the bad influences, surroundings and many disagreeable things they might have to resort to in order to be elected. This is the fault of the people themselves, not because they do not wish to correct the evil, but for not changing the present method of making nominations, which is to do away with nominating conventions, letting the people themselves make the nominations direct.

The solidity of our government rests in the honest and patriotic hearts of our people, and they can be depended upon to make good selections, and thus the political trickster and demagogue be relegated to seclusion and his occupation gone forever. Political parties are useful and perhaps necessary; in fact, no cause can be successfully advanced without organization and a certain degree of discipline. Political

bosses understand this, and through party organizations their power is greatly enhanced; and it will be overwhelming, so long as the masses abstain from active participation through indifference to the public welfare, or a want of courage to do their duty under unpleasant environments. The caucus and convention are not *per se* improper agencies through which to select candidates for office. The first is supposed to be composed of the people themselves, and the convention is presumed to be constituted of delegates who faithfully represent the wishes of the people expressed in the caucus. The initial step is the caucus or primary, and if the people fail to do their duty there, then the very spring and fountain head of political action is corrupted. The people must not only express themselves fully at the primaries, but must enforce obedience to their behests in the convention. Because they fail in the discharge of their duty, the boss and machine dominate. Talk has been vain, so far as producing a fixed sense of duty to be performed year in and year out. Hence plans have been devised to overcome the squeamishness or cowardice of the better classes, and legislation in some States has gone so far as to regulate the holding of primaries and the methods of presenting names to the people for their suffrages. The effect on the whole has been beneficial, but the evil of bad government still exists. One difficulty is that business men are loth to accept office, and certainly they are indisposed to secure nominations; and hence the field is substantially left to the professional politician and office-seeker. It is an old saying that "what is everybody's is nobody's business," and it may be true in all else but politics, for the political manipulator makes politics his special business. It is admitted that in a small country town or neighborhood, where the adherents of either of the two great political parties assemble and honestly try to nominate a good ticket, that it can be done with success. The office seeks the man, perhaps, as was the case in larger conventions many years ago, and their nominations will doubtless be the best they could possibly make. Not so, however, in the case of larger towns, cities, or for a county ticket. In our present day and generation, in the hands of machine politicians and tricksters, the nominating convention frequently happens to be only a ratification meeting. In the hands of a political boss the nominating convention is his trick card or "joker," and it covers a multitude of sins. In case of complaint at the weakness of the men nominated, he complacently points the honest voter to the convention as having done so and so, the party whip is cracked, the bands are playing, while the cannon are booming and a red-hot campaign is in the zenith of its glory. What is the honest voter going to do about it? He looks through the ticket of the opposition—it is six of one and half a dozen of the other. The other ticket simply shows the work of the trickster on the other side—both tickets announced through nominating conventions. Thus it is that the honest voter thinks he has been cheated, and concludes thereafter to let politics alone. As before stated, there is no difficulty in selecting good men in country neighborhoods, but in large cities it is well nigh impossible, under present methods, because of the fact that the responsible element, largely made up of business men, are engrossed in their private pursuits. In early days the rule was that the office sought the man; and that was when the masses cast about their community for the best man. It was considered disreputable for a candidate, for nomination or election, to solicit votes. But there has been a radical change brought about, principally through the indifferences of the better elements to public affairs. The office-seeker now looks up the manipulator or boss and solicits his influence and makes promises as to

what he will do if he succeeds. He need not attempt to poll the masses to get an expression of their wishes, because it is unnecessary, they having abandoned politics to the professionals. "But," some one may say, "if the aforesaid honest voter will but attend the primary elections of his party under the present plan, he can see to it that a set of delegates are elected to the nominating convention that will reflect his views." This has been frequently asserted, and in the minds of many intelligent citizens it has come to be a settled opinion that most of the ills that the body politic is heir to, come from the fact, that the best citizens do not attend the ward primaries in sufficient numbers to outvote or neutralize the work of some unknown boss or the ward strikers, as they are termed. This is a mistaken notion, and if they were to attend, would not correct the evils spoken of, as will be shown later on. If we are to continue having nominating conventions, of course all good citizens interested in the nomination of the strongest men as candidates, should attend their ward primaries, and endeavor to select the best men as delegates to their conventions. Their being present at the primaries has the most beneficial effect in many ways, but that it results in a choice of the rank and file of their party, as to their preference of candidates, is positively denied. In nine cases out of ten, the good citizen is at open sea, and does not know what ticket to vote or what to do when he does attend the primary. From the very nature of the case it cannot be otherwise. He votes, say, for twenty or thirty men that his ward is entitled to, as delegates to the nominating convention. He may possibly know a few of the delegates he voted for; but suppose he knew all of them to be honest men, anxious to make the very best nominations. How is it possible for thirty different men to agree with the voter as to his personal choice for sheriff, clerk, auditor, recorder, treasurer and candidates for a long list of other offices?

Should there be some well-known gentleman in his ward that would make a strong candidate for county treasurer, for instance, the probabilities are that the delegation from that ward might be elected solely with reference to that one nomination. How will they vote in convention for all the others on a long list of nominations? Even in the ward referred to, there might have been hundreds of men in the party with an opinion that Mr. Blank of some other ward or township would even make a better candidate for treasurer than the one in his own ward. Why, then, should a proposed candidate have the delegation of a ward or township give thirty votes for him in the convention, simply because he resides in that ward, when the voters of his party favor another man? And why should all the voters of that ward or township be cut off from expressing a preference for all the other candidates to be elected? It is not fair to the voters; it is not justice to other candidates for the same office, or to the various candidates for the other offices.

Conventions, where there are numerous officers to nominate, too often are mere marts, where bargains and sales are effected. "You tickle me and I'll tickle you" is practiced in disregard of the popular wishes, and often results in the nomination of one or more objectionable candidates. The true method should be to have the members of a political party make the nominations by direct vote at the primaries, letting every individual voter express his preference of candidates for every office to be voted for at the next election.

This is absolutely the only way of giving every voter an opportunity of assisting in making the nomination of his party. It is a simple A, B, C proposition. The Republican and Democratic committees can issue their calls for the primary elections in the usual manner, setting a day for each,

but instead of voting for delegates to a nominating convention, each voter is furnished a skeleton ticket somewhat after this style:

Let the head of the ticket give particulars as to the date, state, county, etc., also as to its being Republican or Democratic, etc., then let the voter write in the names on his ticket:

For Sheriff .....
" Treasurer .....
" Clerk .....
" Auditor .....
" Recorder .....
" Tax Collector .....

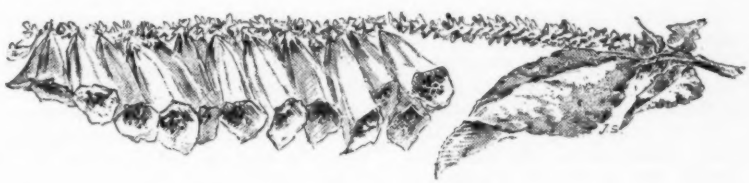
For judges, representatives, senators and whatever other officers to be nominated to be put in the skeleton tickets.

After the polls are closed, the clerks and judges of the primary election count up the ballot of each voter, and certify the result to the Central Committee of the party. The committee add up all the votes of the various precincts of their county, and the ticket thus nominated is the ticket of the party before the people at the next ensuing election; and every voter in each party will have thus taken a part in making the nominations.

This is absolutely fair to all concerned, and will result in getting strong tickets on both sides. It also does away with the expenses of a convention, which are always considerable in the aggregate when we compute the cost to each individual delegate in traveling expenses, loss of time, hall rent, etc.

This plan is adopted in localities of some of the States and has given satisfaction. The law in those States where it has been tried has left it optional with committees, and herein consists the error. It should not be left with a committee, but made compulsory. Under this plan, the candidates exert themselves before the primaries, and their merits are discussed by the people before they are saddled upon a party through a nominating convention. The advantages of primaries held in this manner are that fraud is prevented, the manipulation of shuffling and trading delegates made impossible, and the people are aroused to a performance of a duty at the incipient step. When the people have thus held a primary, future embarrassments are avoided. At best, the boss can then only manipulate a few votes, and would be powerless if the masses were to participate as they should. The primaries thus conducted remove disagreeable surroundings and associations, and work so that the modest citizen can have no excuse for staying at home. Such a regulation might not be necessary if there were not so many citizens who take no interest in those matters in which the public welfare is involved.

Nominations made by direct vote of the people is a proposition that presents all the essential elements of reform; but there is still a danger to be averted, and it is that the business and honest elements will not give heed to their duty. So long as the masses are heedless, of course the bosses will rule, whatever methods may be adopted. Legislation can prevent frauds, perhaps, but it cannot compel citizens to do their duty as to primary elections, unless it disfranchises for continued and inexcusable neglect.



OREGON.

BY EX-CONGRESSMAN M. C. GEORGE.

IN writing about Oregon for the eastern and European readers, it is necessary as a preface to correct the prevalent misinformation abroad as to the true position our state occupies, geographically and otherwise.

Oregon is not a part of California. The latter term is often accepted east of the rockies as descriptive of the whole Pacific coast.

Until recent years, Oregon suffered an almost total eclipse by reason of her dependence upon her sister state, California, for an outlet for markets abroad. Our geographical position rendered it necessary to carry on all communication with the outside world through the California gateway.

San Francisco, the commercial mart of that state, being on the line of ocean travel, our wheat and flour destined for the Liverpool market was carried to it in steamers engaged in coastwise trade from Portland and then trans-shipped in sailing vessels to Liverpool. It was not until 1869 that the first vessel was loaded at Portland, direct for Europe, and while since that time a magnificent and rapidly multiplying number of vessels load direct each year, yet even to this day an ever-decreasing proportion of our plump and firm grains of wheat and our extra fine flour finds a market over the steamships to San Francisco and thence by ship to Europe. It was so, too, with our fine fruit products, green and dried. For years they all found an eastern market only through coastwise shipment to San Francisco, and thence overland by rail to the middle and eastern states of the Union on the only transcontinental road then in existence. We were geographically isolated from the eastern states until the late completion of the Northern Pacific and the Union Pacific railroads afforded us direct communication with their markets. Naturally, then, heretofore the superior products of Oregon not only became known to the commercial world as Californian, but in our rapid development they swelled the volume and enhanced the fame of the supposed productions of our sister state.

With a population exceeding her census rating of three hundred and thirteen thousand, and a square mileage of a hundred and ninety-six thousand—an area twice as large as that of England—were she settled as thickly as that country, Oregon would have as many people within her borders as the present population of the whole of the United States.

Situated on the western slope that runs from the rocky mountains and bounded for miles by the Pacific ocean, lying just north of California, from which she is divided by mountain barriers, Oregon is favored with an agreeable and sufficiently humid climate strongly resembling many districts in England, Germany and New Zealand.

The climatic effects are chiefly noticeable on the vegetable kingdom by growths large in size, firm in composition and rich in flavor, heretofore often reaching the alien consumer under the brand of California, notwithstanding that in the latter two respects, at least, that of solidity and flavor, they far surpass similar products of our more arid neighbor. The same misconception, through causes already explained, exists the world over with regard to Oregon cereals, the finest grades marketed being quoted in the Liverpool exchanges as from California. The same might with truth be said of our matchless lumber which with many other of our produc-

tions is too often accredited to our southern sister state. To put it plainly, the whole brood of Oregon industries has been overshadowed by the wing of a far from fostering foster mother. It was something like the old tale of a hen hatching the eggs of the ducks and claiming the brood for her own forever.

Education and travel are rapidly eradicating such geographically erroneous ideas and their damaging results. Indeed, the fact that the bulk of our fruit crops, owing to their superior texture, if it may be so termed, reaches eastern markets in a far better condition than forced products of California, has already attracted the attention of and enlightened our dealers as to their true birth-place.

To turn from the vegetable kingdom, let us see what climate has done for the human race. Travel around and notice the ruddy, clear-skinned sons and daughters of our favored state, note their robust frames and indomitable energy, and in this connection the conservative and solid character of all the enterprises developed under home management. Never was there a more striking object lesson establishing the theory of sympathy between skies and skins, barometers and brains, thews and thermal influences.

The main spring of Oregon's wealth and stability is water, whether considered in its grandest form in our ocean boundary, in the majestic Columbia River, the silent highway for millions of tons of export and imports, or as the fertilizer of slopes and valleys, or bound by the great architect of the universe in rocky bonds and broken in, as it were, to bit and bridle in human hands at our waterfalls, compelled in its turn to enslave the electric or supplant the fiery element, driving mill or dynamo with irresistible force, and blessing town and country alike with numberless benefits.

In times past, wheat and lumber were our chief sources of income, but a great variety of wealth-producing industries are springing up to crowd them to the wall. The mineral wealth now being developed is enormous and unlimited. The cash value of our wool export runs into many millions, and when the gains of the farmer and fruit-grower are tabulated, it will further illustrate the onward progress of our young state, fully exemplifying our motto, *Alis volat propriis*.

The natural division of our state into west and east by the cascade and coast range produces charming varieties of climate, valuable alike to the horticulturist, agriculturist, aboriculturist, and last, but by no means least, the invalid, nor do we invite the sportsman to our coast, our ranges and valleys, without offering him big game and small of almost all kinds known save the fast-disappearing buffalo and game of the more tropical belt.

It may be admitted that until quite recently Oregonians have been somewhat supine in bringing the advantages of their climate, their mineral, vegetable and animal wealth, and unsurpassed advantages of rail and water transit before eastern and European populations. This probably arose from a too great reverence for the twelfth commandment, that ordained that when one had a good thing, it was to be eaten alone. However, a better policy predominates, which is evinced by the attraction our industries are now exerting over eastern and European capital.

Our State Boards of agriculture, horticulture, immigration, etc., are daily tabulating and distributing facts that fully demonstrate the statement herein made, and an application is cordially invited to any of these bureaus by those anxious for detail to guide them in investment in seeking a home for health, happiness and prosperity.

Questions of the Day.

THE NEW BRITISH GOVERNMENT—WILL IT ENDURE LONG?

THE return of Gladstone to power in Great Britain is an event of great interest to the people of that country, and is generally hailed with satisfaction in this. Every change of administration in that as in this country attracts attention throughout the civilized world. There are two aspects of the change in Great Britain which are interesting: one relates to the man who succeeds to power, and the other is the importance of the question at issue in the late political campaign in that country.

Mr. Gladstone is not of the aristocratic class, yet he is a high churchman by breeding, and was reared and educated under the influence of conservative views. He began political life as a partizan of the Tories, a party always characterized by non-progressive ideas. He was highly educated and has been a laborious student all his life. Few men in any country possess a range of knowledge so wide, or attainments in learning, science, literature and statesmanship so thorough and complete. His career in parliament has been continuous and protracted almost beyond precedent, and he is at the head of the government at a greater age than any of his predecessors. That he is eighty-four and past, and interests himself in the great questions of the day with the zeal and vigor of one in middle life, surrounds his position with an interest quite unique, and renders him inordinately conspicuous. The good wishes of the civilized world attend him in his labors and responsibilities.

Mr. Gladstone is an astute politician, and fully comprehends the importance of majorities in the House of Commons. He has obtained a majority in a contest in which he has had to overcome the prejudice of Britain towards the Celt, and has been compelled to harmonize discordant elements, from local interests and prejudices. Successful politicians usually place themselves in the current of popular opinion, or do as the late Simon Cameron said he was accustomed to do, first discover the directions in which the people were moving, and then put himself at the head of the procession. Mr. Gladstone on the Irish question, though strenuously opposed, has created a sentiment favorable to his views. He has urged Irish Home Rule as a measure consistent with the theory of British home government, and with common justice.

Though the majority in the Commons seem compact and enthusiastically devoted to their leader, still the new Premier is not walking on altogether solid ground. The Home Rule bill is conceded to be predominant in the policy of the new administration, still the Irish members will not assent to much delay, nor to a measure that does not give their countrymen very large control in local affairs. They can, at any moment, terminate the government of Gladstone. The Welsh members are committed to church disestablishment, and if it is not granted, they are liable to be disaffected. But the Radicals are most likely to cause trouble. They are not suited with the Cabinet, as they are not given prominence in administrative councils. Whether the bestowal of minor places will placate them remains to be seen. There is but one distinctively labor member in the Commons, but several Liberals gained seats by the aid of the labor vote. The Radicals are the champions of the working classes, and hence they possess great power in many districts, and if alienated, they will make it

manifest in elections, as they occur from time to time.

Labor demands many ameliorations; among them is enlarged land-holding for the masses, which means subdivision of great landed estates, which will result in encroachment upon the possessions of the dukes and lords. The Radicals are ready to cripple the power of the aristocracy in all practicable ways, even so far as to disestablish the House of Lords. Their tendency is to a republican form of government, and they will naturally carry the working classes with them. They will undoubtedly agitate to gain converts to their views, but they may not be so destructive in their methods as to take a step that will insure a return of the Tories to power. It can hardly be said that Mr. Gladstone is backed by a party. It is a coalition, rather.

Changes in the government of Great Britain have been frequent for the last half century, and they seem to have become more and more frequent, as suffrage has been extended. It proves not the fickleness of the people, but that evolution and revolution in popular sentiment are continually taking place. Aside from the present important question of Irish Home Rule, issues are always arising on the budget and on foreign policy. The budget includes the methods of raising revenue and the manner of expenditure. Governments have often been overturned on what might be termed trivial questions. A vigorous foreign policy is popular in Great Britain, and in his former premierships Gladstone has been more conciliatory and less aggressive than most of the British Prime Ministers. It was on foreign questions that Disraeli was able to discomfit him.

Mr. Gladstone is so advanced in age that in the course of nature he cannot live many years. If he survives long enough to settle the Irish question to the satisfaction of the friends of freedom, in his last years he will have accomplished his best work. He is an exception to the general rule that with age comes conservatism and non-progression, for he seems to have grown liberal and advanced in views as he has grown old. The chances are many that his government will not endure for a great length of time, but its successor will be short-lived, if it does not recognize the fact that the people in all civilized countries are struggling for larger liberty. Great Britain cannot go back to the embraces of effete Toryism and remain for any considerable period, for monarchy and aristocracy are losing their hold, day by day, while the masses are at the same time gaining strength.

A MONUMENT TO CABRILLO.

A few months ago, THE CALIFORNIAN published the journal of the pilot, Ferrel, of the expedition of Cabrillo, who in 1542 discovered Alta California, and at various times reference has been made to this distinguished explorer. On the 27th, 28th and 29th of September, the city of San Diego proposes to celebrate the three hundred and fiftieth anniversary of the discovery of the bay by Cabrillo's ships. This is a movement which deserves commendation, and should not be confined to San Diego alone, but should be taken up by every town along the coast of Southern California. Cabrillo was the original pioneer, the actual discoverer of the Golden State, and should be honored in some substantial way. While San Diego celebrates the date of his discovery, Los Angeles with its scores of wealthy citizens, could well afford to erect to the adventurous Spaniard a fitting monument in one of its many attractive parks. If one of the progressive papers of the City of the Angels would take this up, there is little doubt but what it could be carried on to a successful issue. Mrs. Leland Stanford has set an example in the statue of Father Junipero Serra, and the memory of many of the pioneers of two or three centuries ago should be perpetuated in some enduring manner.

CAN WE COMMUNICATE WITH MARS?

THE great interest taken in Mars at the present time, due to its near proximity to the earth, makes the article in the present issue from the pen of the president of the Astronomical Society of the Pacific of especial interest and value. He discusses the question which has been propounded to the leading astronomers of the day, whether we can communicate with Mars or not, and makes some interesting deductions: whether we can or cannot the time is coming when

the attempt will be made in America, and there are not wanting thinking men who believe that the inhabitants of our neighbor Mars have for years been signaling us, and who believe that the singular so-called canals have something to do with it. It is considered unscientific to theorize in this way, yet the question is one of the greatest interest; and while it may be unscientific, it is none the less a fact, that a discussion of the possible inhabitation of Mars, will attract the attention of thousands of people to astronomical subjects, where a discussion of the seasons of Mars would have no effect. In this way people are educated, astronomical facts are spread broadcast, and the cause of education aided.

PACIFIC COAST CITIES.

THE description of the City of Los Angeles in the present issue will be a revelation to people in the East who have known this section principally through stories of the boom. The story told is of new Los Angeles—the growth and development of this city—within the past two or three years, and the recital is like a fairy tale. Los Angeles is growing faster than any city west of Chicago; new buildings, blocks and houses are appearing at every hand; railroads of various kinds are reaching out into the country in every direction, and perhaps the most flattering prospect in view for this city is the growth of the outlying country, where towns and villages are enlarging their borders month by month, making an important back country for the city. Los Angeles is undoubtedly destined to be one of the important cities of the continent, taking rank in time with the great cities of the world, and its rapid growth and development is but characteristic of the onward movement of the entire Pacific Coast.

NATIVE ART.

THE article in the present issue on basket making as a fine art is one that should attract the attention of the thinking people of the coast, and result in a movement not only for the encouragement but the preservation of this art among the Indians. The well-known writer, Mrs. Carr, has taken a deep interest in the subject, and is trying to have the art of basket making with that of lace taught in the Indian schools now being established in various portions of the State. She claims that fine basket making is now confined to the older Indians, and if the young are not taught to take it up, it will, in time, become, so far as the fine and delicate work is concerned, a lost art. It is to be hoped that the California basket makers will be represented at the World's Fair at Chicago, and some of the fine collections now in American hands be exhibited.

WORLD'S FAIR.

THE CALIFORNIAN began in the August number a series on subjects relating to the World's Fair. The first related to a possible collection of Pacific Slope antiquities, for exhibition, and in the present issue is given a paper describing the early inhabitants of the inter-continental region. The anniversary of the discovery of America naturally makes of interest questions relating to our early history, and a number of articles will be published at an early day bearing upon these most important questions. It is a common saying that America has no ancient history, and our English cousins often refer to this in a jocular way, when, if the truth were told, the antiquities of America are among the most ancient known, and equal in interest any similar discoveries in the world of ethnological science.

PURE POLITICS.

THE approaching presidential election renders political questions of especial interest, and THE CALIFORNIAN presents in this issue two important articles bearing directly upon reform in politics, one by R. H. McDonald, Jr., a San Francisco banker, and one by Mr. Bonsall, president of the council of the city of Los Angeles, suggestive that a movement in the right direction is being made by men who have hitherto stood aloof from politics and its machinery. So long as the influential business men of the community stand back and refuse to take a hand in the various manipulations, so long will the worst elements of the machine rule. Men of intelligence and honor are in the majority in this country, and it is but necessary for them to step to the front and do their duty as active politicians.

NEW BOOKS

BARONESS VON SUTTNER, an Austrian noblewoman, has lifted her voice in strong condemnation of war. In "Ground Arms" she has evidently told the story of her own life, without plot or dramatic action, yet in such thoroughly realistic manner, and with such genuine fervor and tenderness as to interest and fascinate the reader.

The advocacy of peace is old. Its votaries have been regarded as narrow-minded zealots who seek to press the literal application of the doctrine of Jesus to an impracticable extreme. The treatment of the subject by Madame Suttner is new and striking, none the less so because she is a woman, and a German woman, who breaks the traditional reserve of her sex and shakes off the prejudices and social restraint of high life to give public expression to the sentiments of her heart. She steps upon the rostrum at Rome to address the International Peace Congress. She writes of the horrors of war with the force of a woman's instincts colored by a domestic military life in which she was bred, and intensified by personal experience and suffering visiting her in the loss of two husbands upon whom the fate of war had fallen.

The reader will be especially interested to observe how the mind of the author, closed to all individual inquiry by the discipline of the church, suddenly opens its windows to the light of truth and facts. She begins to read and investigate, and to test the dogmas she had learned. Darwin and Buckle open her eyes to the great change in the whole course and method of modern thought. She must have read in Victor Hugo that "races petrified in dogma are unsuited to be leaders to civilization." With the enjoyment of new light her mind acquires new force, and applies a critical judgment to the dogmas, the pious cant and the ecclesiastical platitudes with which she had been trained to excuse the injustice and explain the misfortunes of war. When her beloved husband, Arno Dotzky, is torn from her and sent with his command to battle, she is exhorted by her spiritual adviser to pray Heaven that the destroying bullet may be "diverted from his breast." "Diverted!" she exclaims. "In what direction? Toward the breast of some other man for whom some other woman was also praying?" And when, after the battle, she read the list of the killed, and folded her hands in thanksgiving to God that her Arno was not among them, she was struck to the heart by the "shrill dissonance" of her prayer, and says:

> Certainly those who trembled for Adolph Schmidt or Karl Müller would also thank God, should they read Arno Dotzky instead of the name they dreaded to find. And why should my thanks be more grateful to Heaven than theirs? Yes, that was the shrill dissonance of my prayer: the selfishness and arrogance which lay therein and could cause me to thank God that I was spared, when Schmidt's mother and Müller's wife, reading the list, wept out their breaking hearts.

This woman's brain is puzzled over the reconciliation of the doctrine of brotherly love and love to enemies with the "Martial Nazarene," whose benediction and protection are invoked to give victory to an attempt by sword "to preserve the balance of power," or to prevent a Hohenzollern from occupying the throne of Spain. One side pledges the aid of the "God of Battles" to soldiers who fight bravely and fiercely, while the other side promises the same Supreme Aid to support the opposite principle. The complication is made more intricate when she is told that the horrible carnage is ordained "to rouse a lukewarm faith," and when she finds that, while the ministers of Christ glory in war, those whom the church counts as infidels—Voltaire, Mirabeau and Renan—proclaim the duty of peace, and denounce war as destroying the love of truth.

The cure for the barbarism of war perpetuated by a Christian civilization is found in the exercise of a free, sober reason, and in dispassionate international arbitration. "Ground Arms" comes as the voice of God to the martial hypocrisy of Europe and the world. It is the most powerful protest of recent years against civilized war. Published by A. C. McClurg & Co., Chicago.

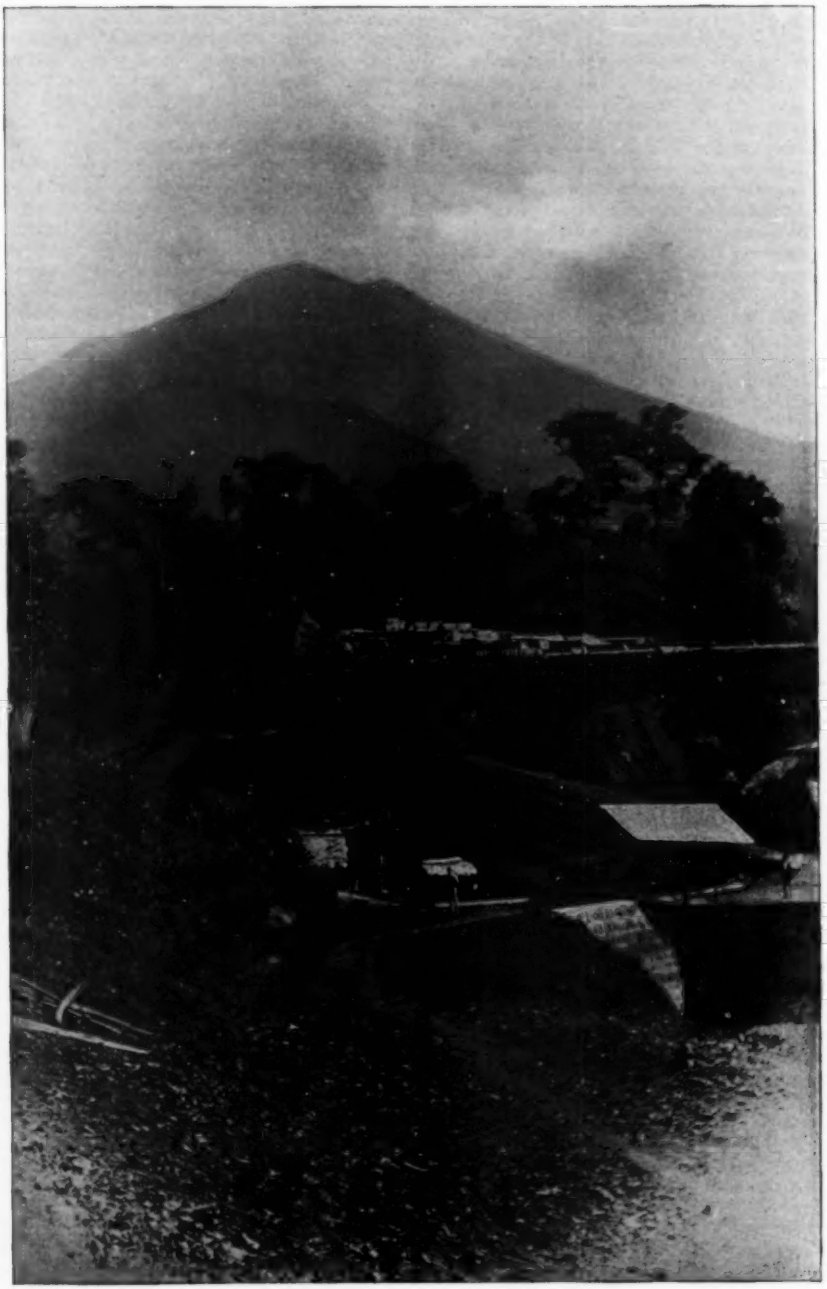
EVERYBODY'S WRITING-DESK BOOK is the unpretentious title of a neatly bound, pocket-size volume which will be of great use to all those who undertake to write their thoughts for others to read. After Richard Brinsley

Sheridan made his first speech in Parliament, he suffered the humiliation of a failure. His friends thought he had better not try again, but he said to them, "I have got it in me and it shall come out." Our nation is remarkable at the present time for the prevalence of mental activity and earnest thinking. Probably there is no other country in the world where so large a proportion of the people are aching to express their thoughts in print. They "have it in them," but a comparatively small proportion know how to "get it out" wisely and well. Young people are apt to rush into print on a pair of rhetorical stilts which the school has furnished them. Old people, who have not trained themselves in ready expression, dash into sentences only to become badly entangled. In both cases, there is a lack of interest for the reader, and the writers fail to say what they wanted to say. Language has hundreds of characteristics that are as much a part of its successful use as are the cogs and levers of an intricate machine. Success in public expression comes to the writer precisely as success rewards the gripman or the engineer—by familiarity and practice. Language is an instrument that will serve us well if we use it right. The man who advertised for a hostler "to care for a pair of horses of a religious turn of mind," knew what he wanted to say, but failed in expressing himself so as to prevent misunderstanding or doubt in the reader.

The unpracticed writer is apt to regard with jealous eye the editor who stands between him and the public. He is little aware of the soul-trying pains experienced by the benignant editor who does his best to make a harmonious whole out of a patched and tattered garment, and rescue the really good thoughts of the writer from assassination by his way of putting them; who tries to get over such small crimes as, "I had intended to have gone," "Between you and I," "John with his friends have come," "He will dine with you and I," etc. And when, in addition to these blunders, which mar respectability more than sense, there is a loose scattering of modifying words and clauses so as to separate them from their natural places, and thus obscure the thought; when the editor must lasso wandering "onlys" and return them to their proper fastenings, invert and transpose sentences to make them obey the commands of the author, rub out his italics, destroy his impudent capitals and commit all this literary havoc upon a closely written, perhaps pencil and badly spelled copy—then the ambitious but imperfect scribe will forgive the editor for kindly—sometimes almost profanely—refusing his product as "unavailable." Now the little Writing-desk Book will serve as a monitor to administer reproof for many of the great and small sins of expression. It will act as an instructor, showing the learner how to separate his paragraphs, arrange his clauses, bestow his capitals, commas and semi-colons, prepare his copy for the printer, and read and mark his proof. Thus it will promote the success of the writer and the morals of the editor. Published by Harper & Brothers, and for sale by Robertson, 126 Post street.

ALGEBRA, etymologically regarded, is suggestive of bone-setting. To many young students, it is more like bone-breaking. By the old way of teaching it, the sign-method of combining numbers was introduced to the pupil abruptly and with an unnatural shock. Commencing with arbitrary rules and definitions, the traditional introduction is deductive in a painful degree. This objection is effectually and admirably relieved in the revision by Professor Amringe (Columbia College) of Charles Davies' well-known and honored work, under the title of "New Elementary Algebra" published by the American Book Company of New York. The introductory lessons are given in facts and examples so linked with the arithmetical method as to build a natural bridge to algebra, and to lay a foundation for an easy comprehension of the definitions that follow. The book carries the subject through equations of the second degree; introduces the learner to proportion and logarithms, and is well adapted to conduct him over this rugged way without tears or broken bones.

HOW SHALL I PRACTICE is a delightful little book by Mme. Julie Rosewald, one of San Francisco's most accomplished music teachers, on the science and practice necessary to produce a good tone in the human voice. The author disclaims any magical or "lightning process" for developing the voice—a result to be obtained only by "patient study and long practice." But she brings efficient aid to the learner by a clear and simple method of practice based upon a scientific knowledge and rational exercise of the vocal organs. The work was produced by the San Francisco Printing Company.



THE COFFEE PLANTATION AT LAS NUBES.